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container handling and port equipment



D3447
Kalmar DRF450-6SS6
Year of manufacture: 2013



D3435
Kalmar DRF450-6SS5L
Year of manufacture: 2011



D3445
Kalmar DRF450-6SS5
Year of manufacture: 2010



D3378
Kalmar DRF450-6SS5
Year of manufacture: 2010



D3463
Kalmar DRF420-6SS5
Year of manufacture: 2009



D3457
Kalmar DRF450-6SS5
Year of manufacture: 2006



D3415
Kalmar DRD420-6SS5
Year of manufacture: 2002



DK093
SMV 4535TB5
Year of manufacture: 2011



D3384
SMV 4535TB5
Year of manufacture: 2008



D3372
SMV SC4527CB5
Year of manufacture: 2005



DK086
Linde C4540TL
Year of manufacture: 2013



DK085
Linde C4540TL
Year of manufacture: 2012



D3458
Linde C4535TL
Year of manufacture: 2008



D3448
CVS Ferrari F479.5
Year of manufacture: 2008



DK098
CVS Ferrari F269.5
Year of manufacture: 2001



D3439
Fantuzzi CS45KS
Year of manufacture: 2005



D3449
Fantuzzi SC45KM
Year of manufacture: 2003



D3436
Valmet TD4212
Year of manufacture: 1994



D3453
Steinbock Boss G4212CH/MKIVA-2
Year of manufacture: 1990



D3462
Svetruck ECS-7H-DS
Year of manufacture: 2011



D3461
Svetruck ECS-7H-DS
Year of manufacture: 2011



D3455
Kalmar DCF100-45E7
Year of manufacture: 2008



D3456
Kalmar DCF100-45E7
Year of manufacture: 2008



D3460
Kalmar DCE100-45E7
Year of manufacture: 2008



D3351
Hyster 22.00XM-12EC
Year of manufacture: 2007



DK089
SMV 5/6 ECB90
Year of manufacture: 2007



DK038
Herbst-ATAIR HFH ATAIR IX D620
Year of manufacture: 2008



D3454
Kalmar DCF100-1200
Year of manufacture: 2008



D3389
Kalmar DC32-1200
Year of manufacture: 1991



D3398
SMV SL20-1200A
Year of manufacture: 2001



G0870
Hyster H16.00XM-6
Year of manufacture: 2008



D3328
CVS Ferrari F16
Year of manufacture: 2003



D3395
Hyster H16.00XM-12
Year of manufacture: 1999



D3397
Svetruck 13,6-120-32
Year of manufacture: 2008



D3255
Svetruck 13,6-60-30
Year of manufacture: 1996



D3442
Svetruck 1260-30
Year of manufacture: 2011

Pics, details and video: www.hinrichs-forklifts.com



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China's panda, symbol of friendship and peace. Shipping lines must bear the cost of using fuel containing no more than 0.1% sulphur at certain Chinese ports from 1 April

Photo: Shutterstock

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Be part of the global ports' community with an IAPH membership



The International Association of Ports and Harbors (IAPH) is a global alliance representing over 180 ports in about 90 countries. Together, IAPH member ports handle over 60% of the world's sea-borne trade and nearly 80% of the world's container traffic. It is a non-profit-making and non-governmental organisation headquartered in Tokyo, Japan.

IAPH provides a platform to develop and foster good relations and co-operation among the world's ports and harbors through forums where opinions and experiences can be exchanged. It promotes the role ports play in waterborne transportation and in today's global economy.

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'The Global Ports' Forum for Industry Collaboration and Excellence'

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Challenging times

IAPH's decision-making process is being reviewed so it can better deal with today's challenges



Susumu Naruse

Secretary General – The International
Association of Ports and Harbors



The world economy, and most likely the world port industry as well, has had a rough start to 2016. The stock indexes in the major markets have tumbled, and the prices of oil and other commodities have fallen sharply. Some economists argue that potential growth has fallen because of the burden of high public and private debt, population ageing and uncertainties that keep capital spending low. This has adversely affected ports worldwide. In fact, some global hub ports experienced a large decrease in their throughputs last year for the first time since 2009, which is discussed in this issue of *P&H*. I hope this won't be a long-term trend.

A shipping association comprised of BIMCO, ICS, and others jointly published *Guidelines on Cyber Security Onboard Ships* in January. The guidelines are very generic and do not identify specific actions to be taken to protect the systems employed by individual companies. I'm sure, however, it will be of great help to shipping companies that need to formulate their own cyber security manuals. The internet is today an indispensable tool for

port operation and management, so the risk of a cyber security attack against port systems is very real. I strongly believe ports need the same kind of generic guidelines as those prepared for ships and I would like to see the subject taken up by one of our technical committees in near future.

SOLAS container weighing rules come into force this July and the Ballast Water Convention will be in force in a couple of years. Ports should be prepared to meet not only such rules that are still within the existing

frameworks, but also emerging challenges such as cyber security. As the environments surrounding global ports change fast, I think IAPH needs to be adept at dealing with these challenges.

In order for IAPH to better deal with the situations, we have embarked on reforming the IAPH's decision-making process since the LA conference in 2013. A revised version of IAPH's new Constitution was proposed by the Strategy Group late last year, which was sent to all the IAPH members for comments in early February. Taking into account the members' feedback, the draft Constitution will be finalised and be presented to all the IAPH regular members for a correspondence vote in March. If the process proceeds as planned, IAPH is to be managed on the new rules from the second half of this year. PH

Ports need generic guidelines on cyber security. I'd like to see this taken up by one of our technical committees

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Port updates

► SUN SHINES ON MUMBAI

A solar power initiative was formally opened at APM Terminals Mumbai on 1 February. Solar panels have been installed on the roofs of two terminal structures and the conversion of energy from sunlight into stored electricity has begun. The system became fully operational on 1 January 2016, with a power generation potential of 361,000 kWh/year.

► NEW CEO AT CANAVERAL

Canaveral Port Authority Commissioners has announced Capt John W Murray as the new chief executive officer of Port Canaveral. Murray, who started his new position on 19 January, was president and CEO of Hapag-Lloyd USA. "We believe our port and our community will be well served having Capt Murray at the helm," said commission chairman Jerry Allender.

► HHLA CHOOSES N4 TOS

Hamburger Hafen und Logistik will deploy the Navis' N4 terminal operating system at all three of its container terminals at Port of Hamburg: Container Terminal Altenwerder, Container Terminal Burchardkai, and Container Terminal Tollerort. The N4 will support the logistics group, helping to optimise terminal operations at multiple sites and meeting customers' demands.

► UP AND DOWN IN KIEL

Weak bulk cargo handling totals were cited as the reason for the decline in Port of Kiel's 2015 cargo handling figures. Last year 6.2 million tonnes of cargo was handled by the port, 4.2% less than the previous year, said the port in a statement. Its passenger figures saw an uplift, with 2.1 million passengers using the port, a 2% increase on 2014. Overall more than 414,000 ro-ro units were loaded or unloaded last year, a decline of 0.4 %.



Oleg Skrypnik

Keelung port, Taiwan, is one of the country's first ports to have received EcoPorts certification

Taiwan implements port environment management

Taiwan International Ports Corporation (TIPC) expects to have an independently audited environmental management system in place for all ports under its jurisdiction by the end of 2017.

TIPC secured EcoPorts certification for the ports of Keelung and Taichung at the end

of last year and aims to have the ports of Taipei and Hualien certified with the port environmental review system (PERS) this year, followed by the ports of Anping and Suao in 2017. The port of Kaohsiung was certified in October of 2014.

EcoPorts certification is essentially a commitment by the

port to recognise the impact of port operations on the environment as an intrinsic component of business and strategic policy. Overseen by the European Seaports Organisation, it includes recognition of the need to comply with relevant legislation, reduce risk, protect the environment, and make

US Georgia ports add box ship capacity

Investments designed to attract larger ships to the Port of Savannah are complementing a harbor deepening project.

Georgia Ports Authority (GPA) on 25 January approved the spending of USD47 million to add four new ship-to-shore gantry cranes at Savannah's Garden City Terminal, which currently has 22. The facility, which GPA asserts has more cranes than other single container ship terminals in North America, will have 26 cranes this year after previous purchases are put into service, and 30 when this most recent purchase arrives in spring 2018, GPA said.

Designed by Konecranes of

Finland and assembled in Nantong, China, the new cranes can reach across vessels 22 containers wide. The latest additions are part of a capital plan that calls for 34 ship-to-shore cranes at Garden City by 2026.

Savannah is in the midst of a USD700 million expansion project to deepen the port's 29 km ship channel from 12.8 to 14.3 m. This is due to be completed in 2018.

The channel deepening, along with the crane purchases, are in response to a trend towards larger ships in the world fleet that is driving expansion projects at US ports, particularly along the east coast. The average container ship

calling at east coast ports is steadily increasing from a capacity of 4,500 teu to more than 10,000 teu.

The trend is being accelerated by the addition of a third set of locks on the Panama Canal set to open this year. These will be able to accommodate ships of up to 13,000 teu. The larger vessels offer more than 30% savings on shipping costs, according to GPA.

Record volume has underlined the need to increase capacity at Savannah. In 2015, the port moved an all-time-high 3.73 million teu, an 11.7% increase over 2014. The increase "was fuelled in part by heightened demand in the US southeast,

operations more sustainable in a progressive manner.

Certification is a two-stage process that initially involves an assessment of the level of environmental management performance, followed by implementation of a new independently validated system with clearly defined responsibilities for all stakeholders at the port.

Implementation of renewable energy capabilities is a major focus of the environmental initiatives of TIPC, which oversees the development of Taiwan's seven major ports.

As an example, all port-owned vehicles operating at Kaohsiung must now use the bio-fuel alcohol gasoline and solar panels are being installed on the rooftops of public building and warehouses. When complete, the solar panels will cover an estimated 150,000 m² with an expected installed capacity of 8,000 kW.

"The solar panels and complex solar and wind power lights installed on the administration building in Terminal No 6 can generate up to 140,000 kWh/year and eliminate 108,120 kg of CO₂

emissions," Lee Tai-Hsin, president of TIPC, told *P&H*.

The port of Taichung, meanwhile, is being developed as a cluster location for businesses involved in wind power.

Taiwan has a history of environmental management at its ports. Protests from residents about noise and pollution from port operations led to the implementation of an automated environment quality surveillance system in 2003.

The system monitors sources of pollution from the port and transmits data via the port's optical network to a control and monitoring centre. Operators can observe noise and pollution levels and climate conditions at each station and identify and report anomalies to stevedores. The system allows for early targeting of anomalies in order to reduce environmental impact.

"With local government and citizens putting on more pressure in terms of requirements for port development, both during construction and operation, and concern about pollution levels, stakeholder communication is essential. We need to spend time

understanding the concerns and needs of residents, local government, tenants, shipping lines, and environmental groups.

"It might not be easy to quantify the benefits of all of the initiatives but it is now an essential part of port development in Taiwan," said Lee.

Gate automation is an important component of emissions reduction. At present there are 94 automated vehicle lanes at Taiwanese ports and more are under construction. The lanes use RFID radio frequency identification (RFID) technology and optical character recognition to verify the identity of the trucks, containers and drivers which shortens gate inspection time from 120 seconds to 20 seconds.

On average, it saves 24 g of diesel fuel and 0.152 kg of CO₂ per vehicle, Lee said.

At present there are no compulsory emissions control requirements for ships entering Taiwanese ports. However, a vessel speed reduction surveillance system is in place at all ports. Ships within 20 nm of ports are requested to reduce their speed below 12 kt.

Savannah's logistical advantages drawing new customers to Georgia, and cargo diverted from the west coast", commented GPA executive director Curtis Foltz.

The latest investment at Savannah builds on capital improvement plans announced by the GPA in October to bolster cargo handling 120 km to the south at the Port of Brunswick. The authority said it had spent USD46.2 million in the past decade on infrastructure upgrades at Brunswick but wanted to triple that to USD152 million over the next decade.

"To ensure efficient processing of cargo, our capacity must remain higher than current demand," Foltz said. "To that end, we will be improving Brunswick facilities

serving each of our major business sectors here, including automotive, breakbulk and bulk cargo."

One of those projects involves adding a fourth berth to serve roll-on roll-off cargo at Brunswick's Colonel's Island Terminal. GPA has

submitted a permit request to the US Army Corps of Engineers for the new berth, which it hopes to begin building in 2016.

GPA said it was preparing 16 ha on the south side of the island to be ready for new customers.



Savannah plans to have 30 gantry cranes by 2018

Port updates

► MUD MEANS MONEY

Dredging the Mississippi River at the Port of New Orleans and the 32 km Southwest Pass, which connects the river to the US Gulf of Mexico, could cost more than double the USD85.8 million budgeted for maintenance dredging in 2016, according to a regional maritime expert. The sediment is deposited by fast-moving floodwaters and it will require four to eight hopper dredgers to remove the expected volume of sediment.

► SALALAH ADDS CAPACITY

The Port of Salalah on the Arabian Sea inaugurated a new deepwater general cargo and liquid bulk terminal in December, adding 20 million tonnes of dry cargo and 6 million tonnes of liquid bulk cargo annual handling capacity, operator AMPT has said. The 1,266 m quay offers two 320 m-long general cargo berths, two 300 m-long liquid bulk berths, and a depth of 18 m.

► ANTWERP SEES DOUBLE

Port of Antwerp in 2015 passed 200 million tonnes of freight handled in a year for the first time in its history. Last year the figure was 208,423,920 tonnes. That's 4.7% more than 2014, said the port. "Another record was broken in the container handling sector, with a volume of more than 9.6 million teu," it said. "In comparison with 2014, 7.5% more containers were handled."



Georgia Ports Authority/Stephen B. Morton

Port updates

▶ PORT OF LA UP 33%

The Port of Los Angeles handled 704,398 teu in January 2016, a 33% increase on the same month last year. It was the busiest January in the port's 109-year history, according to a port statement. Imports were 367,208 teu, up by 41.6% on January 2015. Total loaded imports were 493,449 teu, up 28.6% on a year earlier. Empty containers rose by 44% to 210,949 teu.

▶ ICHCA-FEPORT UNION

ICHCA International, the global cargo handling NGO association dedicated to improving the safety, security, sustainability, productivity and efficiency of cargo handling and goods movement, has agreed to work with the Federation of European Private Port Operators (FEPORT) on matters of mutual interest. The two associations were due to sign a formal agreement on 1 Mar 2016 at the ICHCA International 2016 Conference in Spain.



▶ SOUTH KOREA CUTS FEES

South Korea's Ministry of Oceans and Fisheries has decided to delay raising fees for using the country's trading ports. All 31 ports in South Korea, including Busan and Incheon, will maintain the current fee levels for ships entering and departing the ports, as well as for cargo handling. This will be the case throughout 2016. At the same time, plans are afoot to reduce such fees, although this will be done gradually to maintain fiscal stability. The ministry plans to reduce the fees by 70% over the next three years to alleviate the burden for shipowners and operators.

US regulator takes on LA challenges

A top US regulator will try to fix congestion problems at America's largest container port complex through an initiative that teams-up regional maritime companies.

Rebecca Dye, a commissioner at the US Federal Maritime Commission (FMC), has been tasked with forming "innovation teams" to develop ways to cut down on port congestion and address other supply-chain challenges in San Pedro Bay, California, home to the ports of Los Angeles and Long Beach.

In a 1 February order directing

Dye to spearhead the effort, the FMC noted how recent congestion at major US ports, particularly in the Los Angeles area, could affect the US economy by costing billions of dollars in losses to the supply chain.

Port congestion has contributed to "hundreds of millions of dollars" in losses to US agribusiness, the FMC said, with perishable fruit and vegetable exporters hit by cargo delays that cause vessel shipments to miss scheduled voyages.

Comments and suggestions offered at a series of FMC-

sponsored forums held at various US ports in 2014 were developed into a report, *US Port Congestion & Related International Supply Chain Issues: Causes, Consequences and Challenges*, released in July 2015.

The report identified six major themes: investment and planning; chassis availability and related issues; port drayage and truck turnaround times; extended gate hours, PierPass, and congestion pricing; vessel and terminal operations; and supply chain planning, collaboration, and communication.

Dye said she planned to build on this work as well as on a partnership set up by the ports last year to improve efficiency after a waterfront labour dispute led to significant delays to ships, railroads, and trucks. "I recently visited both San Pedro ports and had a chance to see the fine work undertaken by the port directors as part of their supply chain optimisation groups," she said.

"They've made an excellent start, and I expect their efforts will continue to bear fruit. Our supply chain team project is intended to complement, not interfere with, the progress being made at the two ports."

Dye was also directed to identify potential commercial solutions to "unresolved problems".

“They’ve made an excellent start, and I expect their efforts will continue to bear fruit”

Rebecca Dye
FMC Commissioner



Federal Maritime Commission.

ICTSI to expand in Africa and Middle East

International Container Terminal Services Inc (ICTSI) of the Philippines is expanding its footprint in Africa and the Middle East, with two new terminals under development and an eye to more opportunities there.

The Manila-based terminal operator is half way through a 20-year concession to operate a terminal at Toamasina, Madagascar. In August of this year it will open a new terminal at Matadi on the Congo River in the Democratic Republic of Congo, while construction work on a terminal at Lekki outside Lagos, Nigerian, is expected to begin in six months.

Elsewhere in the region, the company opened a terminal at Basra in Iraq in 2014 and is looking at a potential opportunity in Iran. Hans-Ole Madsen, ICTSI senior vice-president for Europe, the Middle East and Africa, told *P&H*. "We have a lot of focus on this

region. It suits our portfolio well and we are hoping more projects will come our way.

"Africa has been showing significant average growth over the past years. It is at something of a crossroads right now, having been very dependent on mining and resources. Nowadays it has to rethink that and there is recognition of a need to develop a broader industrial base." Improving the quality of infrastructure, including the development of ports and terminals, is an important part of that transition, according to Madsen.

"We saw it in China 20 or 30 years ago. First they built the infrastructure, which became a catalyst for other things – lower transport costs, better goods distribution, and, ultimately, the opportunity to grow an industrial base."

Dutch ports offer free plastic disposal

The port authorities of Rotterdam and Amsterdam have agreed to work together on a scheme to provide free collection of plastic waste from ships at their ports.

From 1 January this year seagoing vessels will be able to dispose of unlimited plastic ships waste free of charge in the ports of Rotterdam Rijnmond and the North Sea Channel district, providing the waste is separated and clean.

The initiative is part of the Green Deal Ships' Waste Supply Chain scheme to reduce plastic waste at sea, Port of Rotterdam explained. The scheme has been operating since 10 September 2014. Since then the port says that it has seen a steady increase in the amount of plastic separated from other ships' waste.

Until the end of last year a fee of EUR30 (USD34)/m³ was applied for plastics, P&H was told by a Port of Rotterdam representative.

Now, she said, "At the same time [that we collect the plastic] we collect household waste for a fixed price from the ships. In the household waste of ships there is also plastic. With this new opportunity

we hope we can stimulate ships to waste separation. So next to the household waste that is picked-up by a ship which collects waste, the ships can deliver their plastics for free".

The port does not know how much the scheme will cost as "at this moment we do not know exactly how much plastic we will collect" this year.

The port official added that Rotterdam had very strict policies surrounding waste management and that the port authority was getting better at efficiently collecting, transporting, processing, and recycling waste, including plastic.

"The success of our waste policy is evident from the fauna and flora in the port, but we are not there yet," she said. "The enormous quantity of plastic in our oceans continues to grow, birds are dying, and the food chain is under threat. The environment is becoming increasingly polluted."

Other participants in the Green Deal are Zeeland Seaports, Groningen Seaports, Port of Den Helder, NVVS (ship suppliers), KVNR (shipowners), collectors of ship waste, ILT and Stichting De Noordzee.

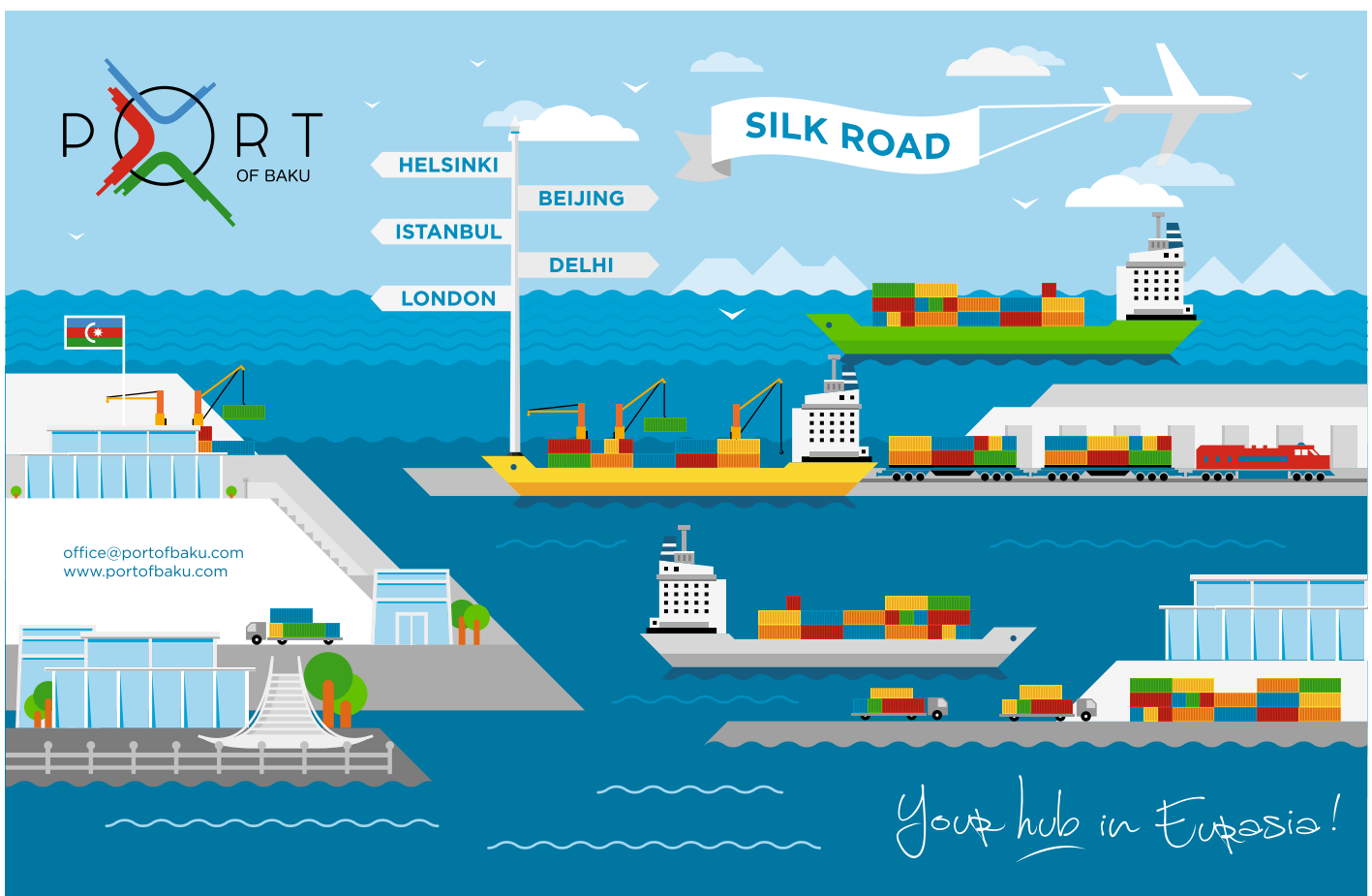
Port updates

► DANISH SULPHUR PUSH

Denmark will push for international co-operation on enforcing sulphur emission regulations this year. In an action plan, the Danish Maritime Authority and the Environmental Protection Agency, in dialogue with the Danish Shipowners' Association, said a "level playing field" was being called for across all sulphur emissions control area countries.

► PARAGUAY FIRST

Transas has supplied Paraguay's first simulation complex for inland navigation training. The Navi-Trainer Professional 5000 is at the Centre for Maritime and River Shipowners.





Will Watson

US operator Maher Terminals has already made clear its position: containers without a VGM will be turned away

Freight transport insurance specialist TT Club has long been concerned over the safety implications of weight misdeclaration and badly packed cargoes in containers. With a significant amendment to SOLAS (the Safety of Life at Sea Convention) requiring verified gross mass (VGM) of packed containers coming into effect on 1 July, **Peregrine Storrs-Fox** of TT Club warns that with the clock ticking, those involved in port and terminal operations must be clear on their responsibilities and prepare for VGM

After a long and thorough consultative process, the International Maritime Organization (IMO) has amended SOLAS with a requirement for shippers to obtain and communicate the verified gross mass (VGM) of each and every container as a precondition of it being loaded on board a ship. The enforcement date is 1 July.

So now we are counting down. Is the industry ready? Are the responsible individuals, companies and organisations aware of their future obligations? How will shippers comply? Will carriers and load ports 'shut-out' or 'short-ship' non-verified containers? Will VGM disrupt the supply chain by slowing its flow and/or bring extra costs? Will the SOLAS regulation be equally enforced globally?

While such questions are prevalent through the industry, TT Club is determined to ensure that the regulation and its potential implications are brought to the attention of those concerned throughout the supply chain, in order to support as thorough a preparation as possible. In essence a safety initiative, the importance of the regulation grows as the future brings more varied cargoes, developing markets, and bigger ships.

How is the container handling port terminal involved? The amendment to SOLAS mandating VGM specifically names the 'shipper', the 'master' and the 'terminal representative'. The shipper is required to present a signed document stating the VGM for his container. The master (representing the carrier) and the terminal representative, who will receive and handle the container, are obliged to ensure that only containers with VGM are loaded on to a ship.

The precise wording of the amendment can be summarised as follows: If a verified gross mass is not available, the master and terminal representative shall not load the container on to the ship; recognising the pivotal nature of the port interface, the terminals have been drawn into the new regulation as recipients of information for ship stow planning and,

The shipper shall

1. Verify the gross mass by
 - (a) either weighing the packed container, 'Method 1'
 - (b) or weighing all constituent parts in the load, 'Method 2'
2. Ensure that the verified gross mass is
 - (a) stated on the (signed) shipping document and
 - (b) submitted sufficiently in advance to be used in the ship stowage plan

There is urgent need for ports/terminals to communicate with their line customers'

Peregrine Storrs-Fox
Risk management director, TT Club



TT Club

critically, have a joint and several exposure, along with the carrier, as they are responsible in not loading a container on board a ship if the VGM is not available.

Terminals fundamentally have to determine how they will handle both the information and the physical boxes. Processes have to be implemented that manage the in-gate to segregate those containers with and without VGM, and the information interface with the carrier and ship planner. If there is no VGM when the unit is presented to the port, does the terminal set-up to provide a Method 1 weighing service – and is that service offered and billed to the carrier or the shipper? (see box below, left) While the shipper remains responsible for producing the VGM, in most terminals, the commercial relationship is with the carrier alone. Ports and terminals need to consider how appropriate contractual terms will be incorporated.

There has been considerable debate as to whether terminals need to position themselves to be able to weigh containers, not least because of the cost of appropriate infrastructure and space constraints, as well as amending systems and procedures, with an uncertain return on investment. In the US one operator, Maher Terminals, has already declared that post-1 July packed containers presented without VGM will be turned away.

While the regulatory change in relation to VGM is articulated in the international maritime legislation – SOLAS – there is agreement that the accurate gross mass needs to be determined at the point that the container packing is completed, prior to commencing the first part of the transit. In reality, the probability of incidents and injury is far greater on land, albeit that the potential impact arising from a container ship incident is significant.

Despite the importance of knowing weight

(and distribution) of cargo before it enters a road or rail network, much attention has so far been towards delivering functional and efficient innovations at the port area to ensure that weighing can be done without disruption to operational flows.

There may be reasonable logic in this concentration at the port, since a container once packed may be expected generally to proceed from origin to destination without the cargo gross mass changing materially. Consequently, the port can be argued to be a key nodal point at which to check or establish VGM prior to planning and loading a ship. Furthermore, it may be reasonable to question whether there is an implied duty within the revised regulation to check the verified weight.

On the face of it, all parties should be able to rely in good faith on the veracity of the verified gross mass given by the shipper, but accurate declaration has been embedded in the regulation historically.

There are many who argue that the port may not be an appropriate place to obtain VGM. In part, this reflects concerns that the required processes would fundamentally undermine the modern port's *raison d'être* to facilitate uninterrupted cargo flow.

This is an undoubted challenge, not just to handle the sheer volume, but also deal with any exceptions.

Regardless of arguments over the role of ports, unless it is already determined, there is urgent need for ports/terminals to communicate with their line customers and the relevant competent authority to understand their requirements, consider what facilities and services are feasible, and review contractual provisions.

Implemented well, this regulation will deliver greater safety in a number of ways. Grasp the opportunity! **PH**

China clears the air with ECAs

Hong Kong shipowners and shippers welcomed a new Mainland China regulation on ship emissions that comes into force on 1 April 2017, reports **Ken Gangwani**



China is home to half of the top 20 container ports in the world and, with about 30% of the world's containers passing through the country every year, pollution from ship emissions is a major problem.

China has been paying a high price for pollution associated with shipping, with an estimated 1.2 million premature deaths in 2010 caused by ambient air pollution, according to studies conducted in Hong Kong and Shenzhen.

The new China ship emissions regulation that comes into force on 1 April this year promises a welcome respite for people living in port areas.

Only a few port Chinese cities and provinces have paid attention to emissions from ships and port activities over the past few years. On 1 July last year, Hong Kong became the first to enforce the use of fuel with a sulphur content of 0.5% or less for vessels docking at the port.

Now some Chinese ports are following suit. From 1 April this year, it will be compulsory for ships at berth in the ports of Shanghai, Ningbo-Zhoushan, Suzhou and Nantong to burn fuel with a sulphur content of no more than 0.1 % and ships entering the waters of the Yangtze River Delta Emission Control Areas (ECAs) will be encouraged to use fuel with no more than 0.5% sulphur.

Oil consultancy ICIS has estimated that the majority of fuel used in China's shipping sector at present has 1–2% sulphur oxides (SO_x) content.

Hong Kong's shipowners and shippers welcomed the new Mainland China ship emissions rule. According to a directive issued by China's ministry of transport in December, ships berthing at main ports

in the emission control areas (ECAs) of the Pearl River Delta, Yangtze River Delta, and the northeastern Bohai Bay Rim will be required under national law to use fuel with a sulphur content of no more than 0.5% from January 2017.

In the year preceding this mandatory requirement, from 1 January 2016, ports are allowed to apply the same requirement and will be responsible for monitoring fuel use. The law will be tightened in subsequent years. From 1 January 2018, ships berthing at all ports within the ECAs must use fuel with less than 0.5% sulphur content. From 1 January 2019, all ships entering the ECAs must use such fuel.

By the end of 2019, the ministry will assess the effectiveness of the measures and decide whether or not to conduct further steps. It could then require ships operating within ECAs to use fuel with less than 0.1% sulphur content, expand the ECAs, or take further action. The regulation does not include military ships, sport ships, and fishing boats.

Arthur Bowring, managing director of the Hong Kong Shipowners Association (HKSOA), told *P&H*: "We believe that the China move to the low emission areas is an excellent development, but we are concerned whether the eventual regulations and their application are in line with international regulations.

"The shipping industry is a global industry, and must have consistent standards on a global basis. So far, and judging by the wording of the new regulations, it is our understanding that the China regulations will follow international norms. That being said, we are working with the Hong Kong government to ensure that our concerns on this issue are raised with the right authorities."

Asked if China could monitor the regulations, Bowring said: "The regulations are for alongside emission reductions, and this can be monitored very easily. When China eventually moves towards an IMO [International Maritime Organization] ECA, monitoring fuel consumed when ships enter the ECA might be difficult."

Comparing the new China ship emission regulation with Hong Kong's regulation, he said: "Hong Kong obviously led the way in the consideration of switching fuel at berth, and it is clear that the initial Chinese regulation will follow the Hong Kong lead."

The Hong Kong regulation does not have a designated ECA, but think tank Civic Exchange has suggested that the government apply to the IMO to set up an ECA, which would require ships to switch to 0.1% sulphur fuel when within 100 nm of Hong Kong.

The Hong Kong law was long time coming. It was the industry that took the initiative when it set up the Fair Winds Charter, comprising 17 of the world's major shipping lines, in 2011, agreeing to use cleaner fuel at port.

Bowring said, following the announcement of the Hong Kong regulation, "We've been working closely

So far, and judging by the wording of the new rules, it is our understanding that the China regulations will follow international norms

Ship emissions add to polluted air blown from mainland China



Joachim Aftab

with groups like Civic Exchange and Clean Air Network for a long time, but it was hard to get the third side of the triangle, the Hong Kong government, involved. So we said we'd do it on a voluntary basis at first in 2011.

"Yes, it's strange for the industry to do that, but in this case, we decided it was time to do something. We're extremely pleased this has finally come into force. It's levelled the playing field between shipping companies that had signed the 2011 Fair Winds Charter and those who hadn't. We've already seen massive reductions in sulphur emissions in the area around the port."

Stephen Ng, director of trades at major Hong Kong shipping line OOCL, said, "OOCL welcomes China's agenda to introduce ECAs in the country, which will be in sync with international best practice as seen in Europe and North America. We believe [the] ECA is a more sustainable and long-term solution and the new regulation, when fully in force, is an important step forward to improving air quality as well as setting an excellent example for everyone in the region to work towards sustainability in our environment."

"The Chinese government is rolling out the ECA agenda in phases and we believe liners will comply with the regulations accordingly."

Asked about the cost the lines would have to bear to switch to alternative fuels or LNG, he said, "According to the new regulation, it does not stipulate the use of LNG [liquefied natural gas] but to switch to using low-sulphur fuel with a SO_x content of 0.5% or less when berthed at the major ports in China once it becomes compulsory" on 1 April this year.

"At this time, we don't have an accurate view of the annual cost of using low-sulphur fuel in China. It will become more clear when the industry begins to comply with the regulations next year. But as a point of reference, in Hong Kong during the Fair Winds Charter period the industry reported an annual cost for each liner to be approximately USD2 million." OOCL currently uses a low-sulphur fuel with a SO_x content of 0.5% or less to meet Hong Kong regulatory requirements.

Ng explained that the two rules would be comparable in 2017, when "both [China and Hong Kong] require the use of low-sulphur fuel with a SO_x content of 0.5% or less and is only applicable to vessels berthed at the port". However, if the IMO ECA comes into force in 2018, "China will require vessels to switch to low-sulphur fuel prior to berthing at the port and currently Hong Kong does not have an ECA policy in place. The Chinese and Hong Kong authorities may consider aligning the policies with an agenda towards a comprehensive ECA solution to better increase air quality in our environment."

Willy Lin, chairman of the Hong Kong Shippers Council, commenting on China's new emission rules, said, "Since 0.5% sulphur fuel is not a standard fuel type, it is expected the industry will use 0.1% sulphur fuel. Individual shipping lines had indicated in the past that it was extremely difficult for them to comply with the rule due to the fact that they would need additional tanks to store the low-sulphur oil. In some countries, ports provide electricity and this will help shipping lines solve the problem of additional oil tanks."

"China will have to have sufficient low-sulphur oil ready for the shipping lines to use. In order to enable shipping lines to migrate or to adopt to new rules, a grace period may be a possibility." PH

Regulation complements COP21 outcomes

As the country with the highest greenhouse gas emissions, China was in the spotlight towards the end of last year as COP21 took place in Paris. The world watched as countries thrashed out a plan to reduce the rise in global temperature.

Stephen Ng, director of trades at OOCL, said, "The COP21 agenda is mainly focused on greenhouse gases, particularly on carbon emissions. This new regulation in China, due to come into force in January 2017, which focuses only on SO_x emissions, can be seen as being complementary to China's overall contribution and commitment to sustainability and improving the environment."

Arthur Bowring, managing director of the Hong Kong Shipowners Association, agreed. "The new China rule is an air pollution regulation, while the dialogue at COP21 is different," he said. "Both are air emissions, but one is air pollution and the other greenhouse gases."

"China has severe environmental issues with air pollution," Bowring added. "This really has very little to do with the discussion at COP21, except perhaps that China is well ahead on environmental issues in general – much further ahead than many give [it] credit for."

Last push for growth before closing time

Singapore's port development highlights the changing dynamics in box shipping, reports

Zeng Xiaolin

Phases 3 and 4 of the expansion of Singapore's Pasir Panjang Terminal have been completed, and now work is under way at the mega-port.

The ultimate plan is to consolidate all the terminals in Tuas by about 2027 and in the lead-up to that day, the existing city terminals will be closed gradually.

Singapore's existing Keppel, Brani and Tanjong Pagar terminals are located on the fringes of the downtown area, along with Pasir Panjang.

By 2027, the land leases for these terminals expire and Pasir Panjang will be the last to close.

Phases 3 and 4 of the Pasir Panjang Terminal plan are a stop-gap plan to raise Singapore's container handling capacity to 50 million teu by 2017, amid increasing up-sizing of container ships. The expansion will add 15 berths with a 6km quay length to the container terminal's existing 52 berths. The new berths have an 18 m draught.

A few of the 15 new berths are in operation and all are set to be in use by 2017, two years ahead of the original plan. Singapore's prime minister, Lee Hsien Loong, who opened the expanded terminal on 23 June 2015, spoke of how Singapore had come a long way since the former British colony's port began at the Singapore River. He added that Singapore had never stopped investing in upgrading its port because it was crucial to the city-state's economy.

In 1991, Singapore decided to expand Pasir Panjang Terminal so the city-state's ports could handle

35 million teu. In 2004, anticipating cargo growth, the decision was taken to expand the terminal to handle 50 million teu/ year. Local design consultancy Surbana was tasked to perform the coastal engineering work for the project. The government invested SGD2 billion (USD1.5 billion) to reclaim land for the terminal's expansion, while terminal operator PSA International invested SGD3.5 billion in facilities and equipment.

Lee said, "These new berths will enable us to better serve mega container ships and make us even more efficient." Lee emphasised the importance of Singapore's port to the city-state's economy.

He said, "I think Singaporeans know that the port is important to us, but I suspect that many of us do not realise how critical it is. If PSA were not a major port in the world connected directly to other major ports in the world – Shanghai, Rotterdam, in the United States and Australia – then we would be sidelined. On a side line; up a cliff.

It is not just a completely different port, it is a completely different Singapore. But because of the success of our port, the world is highly connected to Singapore and we are very integrated into the world."

The expanded terminal features automated rail-mounted gantry cranes that do not require operators. Instead, crane specialists will monitor the operations and step in when necessary, a move expected to reduce manpower costs and improve productivity.

But the dynamics of container shipping kept changing and while expansion of Pasir Panjang Terminal was under way in 2013, the government announced that all container operations would be amalgamated in Tuas by 2027. The new mega-port will be able to handle 65 million teu annually when fully operational.

Inevitably, this led to questions as to whether taxpayers' money was being wasted on expanding Pasir Panjang Terminal. In April 2015, the dredging contract for Tuas port was awarded to a joint venture between Dredging International and South Korean group Daelim Industrial.

A source from PSA International, Singapore's main terminal operator, told *P&H* that it was a common misconception that all the existing terminals would be closed simultaneously. The source said, "The shift to Tuas will be gradual and Pasir Panjang will be the last to move, given its recent expansion."

Roland Berger's senior project manager, Truong Bui, noted that terminals around Singapore would be closed in phases to consolidate in Tuas, with the Tanjong Pagar terminal the first to shut and move.

Bui said, "If indeed the Pasir Panjang Terminal is closed by 2027, it is not nearly enough time to reap the investment that the government has poured into expanding it. The government would definitely need more than 10 years of operations to get a return on capital. It would make sense to keep Pasir Panjang Terminal operational to complement current and future capabilities at Tuas." **PH**

The newly opened Phase 3 and 4 of Pasir Panjang Terminal





Ken Giangwani

Direct port calls hurt Asia's transshipment hubs

Surplus capacity, larger ships and low fuel prices are changing the way container shipping lines approach transshipment, which is having a direct impact on Asian hub ports, reports Asia editor **Greg Knowler**

Port of Hong Kong. Other Asian ports have been taking its transshipment trade

Singapore's surprise 8.7% decline in 2015 container throughput volumes provides the clearest illustration of the pressure hub ports, particularly in Asia, are under.

A good 95% of containers handled by the world's second-busiest port are transshipment, mostly for Asia to Europe cargo. The trade route was dismal in 2015, but that only partially explains the sharp fall in throughput.

In its announcement of last year's volume, the Maritime and Port Authority of Singapore (MPA) said one of the reasons for the decline in boxes handled was an increase in direct sailings because of low bunker prices.

P&H asked shipping expert Andy Lane, partner CTI Consultancy, to spell out how this worked. He explained that the direct sailings occurred in relay

transshipment, where cargo was interchanged between two deepsea or mainline services. This avoided having all deepsea services calling at all ports within a region, which would result in additional port expenses, additional sailing distances, and increased cargo transit times.

"Not only do many prospective hubs compete for relay transshipment, but they also compete against macro-level industry drivers," Lane said. "For example, with low fuel prices and an abundance of ships, it starts to make more sense to make more direct calls and reduce transshipment volumes and costs, if the saved costs are more than the incremental costs of adding ports to mainline services."

Lane said with the start of the 2M and O3 (CMA CGM, CSCL, UASC) alliances at the beginning of

2015, more direct port-pair matches were produced than 2M members Maersk and MSC could achieve independently, and therefore overall relay demand decreased. He said this could be seen in Singapore's falling container volume last year.

PSA group CEO Tan Chong Meng also highlighted this issue, saying bigger ships, bunker prices, and alliances were contributory factors to the Singapore volume decline. PSA handles almost all of the containers that use the city.

"Trade in the second half of the year was particularly lacklustre and this added to the pressures that were already building up due to structural shifts such as ship upsizing, sustained overcapacity, changes in liner alliancing, and the effect of prolonged lower oil prices."

Lane said, ideally, all the relaying would be done in Asia where terminal handling charges (THCs) are the lowest and efficiency is highest. "Ideally you have a single relay hub, a single point of convergence at which all services within a line or alliance network meet, which equals super-connectivity," he said.

Interestingly, Lane pointed out that the competition for relay transshipment cargo stretched far beyond regions such as southeast Asia as it could be done almost anywhere along the primary east-west shipping corridors. Ports on the Asia-Europe trade that compete directly with the Far East hubs include Colombo in Sri Lanka and the Middle Eastern ports of Salalah and Jebel Ali.

However, he added that the ideal location for a relay point was the last port before the head-haul ocean passage. For east-west routes, that was southeast Asia; on west-east routes, South Korea's ports would serve as the last port of call before ships headed across the Pacific.

The rise in direct calls and the bypassing of traditional transshipment hubs has revealed the dangers of overreliance on this type of cargo. "Transshipment is rather footloose and nomadic, it can ebb and flow, and therefore is higher-risk if your investment case is highly dependent upon transshipment volumes," Lane said.

“If you have assets that are under-utilised and gateway growth is slow or in decline, then it becomes natural to target transshipment, even if it barely covers your opex costs”

Andy Lane,

Partner, CTI Consultancy

Of all the Asian hubs, Hong Kong is probably the port in the most precarious position. Over the past 15 years the port has gone from being a southern China centre for direct exports to a port where more than 70% of the container volume is now transshipment.

Yet even though this segment of containerised cargo is counted twice, the last time Hong Kong saw monthly growth in volumes was way back in mid-2014. Shenzhen's terminals are cheaper and more easily accessed from the factories and this has long been siphoning off Hong Kong's throughput.

The Hong Kong Container Terminal Operators' Association has warned that transshipment business could easily be shifted to Shenzhen, a chilling scenario for the port that was also raised last year by Tim Smith, Maersk Line's north Asia regional chief executive and chairman of Maersk China.

Once a key advantage, Hong Kong connectivity to other ports is steadily being eroded as shipping lines add direct calls to Shenzhen. Barclays Research said once these port calls by shipping lines began to grow, the connectivity for Shenzhen and other ports in the Pearl River Delta would improve accordingly, which in turn would attract more cargo and more port calls. "This self-fulfilling process will gradually undermine Hong Kong's position," the analyst noted.

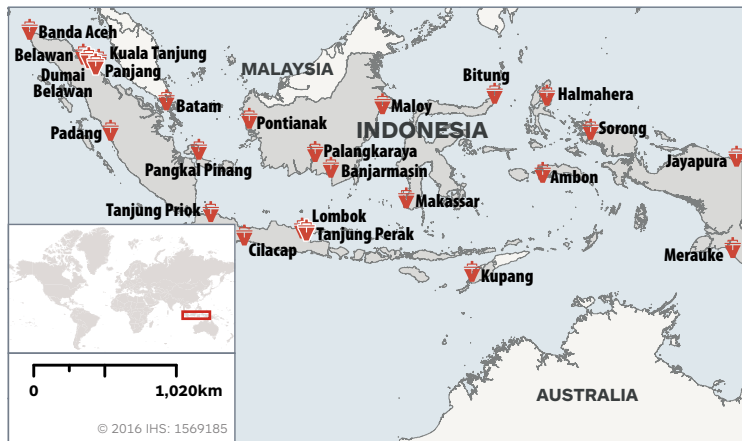
Another problem that has long faced Hong Kong is that it is one of the most costly ports within Asia from a terminal handling charge perspective. Curiously, shipping lines have proved unwilling to address the terminal handling charge, even as it hampers the port's competitiveness.

For carriers, whether they tranship or service port-pairs directly, it all comes down to the total cost of ownership and the overall network optimisation process and strategy, according to Lane. As shipping lines struggle to find profitability in a market chronically oversupplied and with demand crushingly low, cost is king.

"If you have assets that are under-utilised and gateway growth is slow or in decline, then it becomes natural to target transshipment, even if it barely covers your opex costs," Lane said. **PH**

Kwai Chung container terminal Hong Kong by night. The port is more vulnerable than others in the region as it relies so heavily on transshipment





Indonesia's 24 port projects identified in the five-year plan

1 Banda Aceh	9 Pontianak	17 Merauke
2 Dumai Belawan	10 Palangkaraya	18 Bitung Port
3 Pangkal Pinang	11 Banjarmasin	19 Makassar Port
4 Kuala Tanjung	12 Maloy	20 Tanjung Priok
5 Panjang	13 Ambon	21 Cilacap
6 Batam	14 Halmahera	22 Tanjung Perak
7 Padang	15 Sorong	23 Lombok
8 Belawan	16 Jayapura	24 Kupang

Indonesian ports get connected

The government aims to reduce logistics costs as part of a revitalisation plan, adding capacity and improving connectivity, reports **Lily Bertha Kartika**

The Indonesian National Development Planning Agency (Bappenas) has said that the government needs IDR 700 trillion (USD 50.19 billion) to develop 24 ports over the next five years. Indonesia currently has around 2,400 ports. Of the 24 identified in the five-year plan, some ports exist already but need upgrading whilst others will be new developments. These ports are divided into hub ports, major ports, and collecting ports which will distribute logistics to small cities.

From the IDR 700 trillion, state-owned Pelindo has been allocated IDR 243.6 trillion to construct the ports, IDR 7.5 trillion to develop short sea shipping, and IDR 40.6 trillion to construct general and bulk cargo facilities.

According to Bappenas' data, IDR 189.6 trillion is being used to develop commercial and non-commercial ports, IDR 50 trillion is for the construction of multi-modal transport to ports, IDR 10.8 trillion is for shipyard revitalisation, IDR 101.7 trillion is for five-year vessel needs, IDR 6 trillion is for patrol vessels, and IDR 50 trillion is for construction commissioned but not realised, under the previous presidential administration.

Bappenas' director of transport, Bambang Prihantono, said the port developments are part of a sea highway concept focusing on eastern Indonesia. As part of this concept, two national hub ports have been assigned to serve bigger merchant vessels of over 3,000 teu capacity or Panamax-class vessels with 6,000 teu capacity. These ports are Kuala Tanjung Port on the Malacca Strait in

North Sumatra and Bitung Port in North Sulawesi.

The nation's poor domestic infrastructure has led to high logistics costs. Of the roads, ports, railway, and airports, only the railways remain in good condition.

"National logistics costs [proportionally] until now, are at around 25%," said a member of the Indonesian Economic Co-ordinating Ministry's National Logistics System (Sislognas) expert staff, Hoetomo Lembito, who added that this percentage is higher than in other ASEAN countries. He said that, in addition to infrastructure, "our problems line in" are inter-modal transport, interconnection between ports, warehousing and transport.

The 24 ports are being built across five Indonesian regions. In Sumatra, eight ports will be developed at Banda Aceh, Dumai Belawan, Pangkal Pinang, Kuala Tanjung, Panjang, Batam and Padang.

Four ports will also be built in Kalimantan, namely Pontianak, Palangkaraya, Banjarmasin, and Maloy. In Sulawesi, the government will build Bitung Port and Makassar Port. Java is developing the ports of Tanjung Priok, Cilacap, Tanjung Perak, Lombok, and Kupang.

In Eastern Indonesia ports are being developed at Ambon, Halmahera, Sorong, Jayapura and Merauke. In this region port projects will be supported with railway network construction in Papua, with work due to start in 2017. These railways will connect Sorong and Manokwari – a distance of 400 km. Transport minister, Ignasius Jonan, has initiated a topography study and the budget will be allocated in 2017.

Pelindo I has developed a co-operation agreement with Port Rotterdam International for it to help develop Kuala Tanjung. It has also formed a joint venture with Van Ord Dredging and Marine Contractors BV to develop a shipping channel for Belawan Port in North Sumatra and the Indonesian operator has won the 70-year concession to operate the container terminal at Balawan.

Pelindo II former CEO, R.J. Lino, said that Kalibaru (New Priok) Port, with a build cost of IDR 9.14 trillion, will also have an annual capacity of up to 4.5 million teu capacity and two fuel terminals with a predicted yearly capacity of 10 million m³. **PH**



Lerwick Port Authority

The new vessel traffic management system incorporates a variety of manufacturers' products, **Martin Watts** discovers

The complete picture: About 5,000 vessels per year call at the port

Lerwick Harbour in the United Kingdom's Shetland Isles has witnessed significant development and growth since the discovery of oil and gas in the North Sea in the 1970s. For commercial, operational, and safety reasons, Lerwick Port Authority has sought to continually develop its management of the harbor and approaches and has recently announced the ordering of a replacement vessel traffic management system (VTMS) from navigation and safety equipment supplier Transas.

The port receives more than 5,000 vessels a year and this was one reason for investing in a more modern, complete, and technologically advanced system given by Captain Alexander Simpson, deputy harbor master. He told *P&H* that these vessels totalled "more than 12 million gross tonnes" and so a "robust, effective, and modern monitoring system is required to assist the port controllers in maintaining a good safe watch in and around the Port of Lerwick".

It is also worth noting that the port operates 24 hours a day, 365 days a year, with no tidal restrictions, and the growth in traffic that the port has experienced has therefore made the acquisition of the latest equipment a vital investment for its current and future operation.

The traffic system that is being replaced was

originally designed in the Netherlands by INA, which is now known as Northrop Grumman Sperry. Interestingly, as part of the Transas system, Lerwick is replacing its current radar scanners with the latest Northrop Grumman Sperry Vision Master Radars.

A feature of the Transas supply and fitting of the new VTMS is that it includes other manufacturers' equipment as well as its own. Hence, Transas will be overseeing the installation of a Jotron very-high-frequency (VHF) communication system and a Gill meteorological sensor, in addition to its own automatic identification system (AIS) units and an APC power back-up system that provides 12 hours of running time.

In total, therefore, the hardware components of the new system will consist of an AIS, radar, CCTV monitoring, VHF, and weather measurement and monitoring equipment, each supplied to the latest specifications.

As far as software is concerned, what lies at the heart of Transas' contract with the port authority is the latest version of its Navi-Harbour Vessel Traffic Service (VTS) software, which, according to James Woodward, Transas' area sales manager, "offers a highly flexible and scalable solution as it [the port] will be adding a number of remote sites [Kirkabister, Maryfield, and Rova Head] into the network, as well as the main port building."

Navi-Harbour has been specifically designed to ensure navigational safety, with due regard to preventing possible environmental damage to the harbor and local marine environment.

The VTMS contract between Lerwick and Transas provides for more than just the supply and installation of all the various hardware and software elements. As part of the comprehensive package, Transas will include the design and delivery of bespoke training courses for all operators at the port, and the company will provide an inclusive maintenance service plan, ensuring that all hardware and software continues to meet operating and compliance requirements.

The prime purpose of the new Transas VTMS is to provide Lerwick port management and operations with enhanced information, thereby increasing operational functionality and efficiency.

Woodward confirmed that "the new system will be capable of aiding the controllers in analysing vessel data in high detail and in poor weather conditions through the various active surveillance tools. The system will also develop the harbor communications and weather monitoring systems to better provide information back to harbor users as required".

Simpson highlighted the commercial and competitive advantages the port expected to gain from the new installation. "The efficiencies within the new system should basically allow much more user-friendly and effective monitoring, with vessel information being available to hand. This will no doubt improve the ability of the controller to handle multiple vessels simultaneously."

Lerwick's Transas VTMS should become operational during May 2016. **PH**





Port of Dover

Open round the clock

Implementing 24/7 port operations places greater pressure on vessel traffic systems and staff, but with the right approach to software and training, it shouldn't give you sleepless nights. **Stephen Cousins** reports

VTS operators at Port of Dover... the port is open 24/7

As global shipping traffic escalates, terminal operators in smaller commercial ports and developing countries are demanding that 24/7 port operations are put in place to ease congestion and meet customer demands for timely arrival of goods.

In a recent example, the Seaport Terminal Operators Association of Nigeria called for 24/7 operations for ship and landside operations, including weekends and public holidays, blaming the lack of full-time clearing agents and customs officers for inadequate cargo clearance.

Working year-round burdens vessel traffic systems (VTS) staff and systems to ensure that vessel calls are properly scheduled and co-ordinated with landside operations, that navigation remains safe despite reduced night time visibility, and that potential security threats are identified.

The Port of Dover's VTS team, also known as Dover Port Control, is more familiar than most with these challenges. Europe's busiest ferry port handles up to 120 ferry movements a day, 100 cruise ships a year, and

3,750 yachts and small craft a year. All movements take place in an area of just 1 m² across, creating an intense and demanding workload comparable to that of air traffic control.

"Dover needs a 24/7 VTS operation due to the sheer volume of traffic the port handles," said Steve Manser, VTS manager for the Port of Dover. "Not only does it provide security in terms of safety of navigation, it also has huge commercial implications in the running of the port."

The port's VTS team issues berth schedules for calling vessels one year in advance to maximise 'uplift'. The schedules are frequently updated to ensure that the right number of ferries are arriving to service tourist traffic and freight.

Security is a key priority for Dover, which must comply with the ISPS Code, and its VTS team has a range of equipment at its disposal, including radar and automatic identification system (AIS) overlays for the port management information system (PMIS), very-high-

frequency (VHF) radio monitoring, and communication via telephones or email, or in more extreme scenarios, signal lights, or the Harbour Patrol Launch.

“Our level of vigilance does not change from day to night,” Manser explained. “We are always on high alert, picking up targets on radars and visually sighting targets. However, it is more difficult to monitor at night, especially smaller craft or yachts with smaller lights. The VTS control tower provides views of the narrow east and west port entrances, making it unlikely that any vessel will slip through unobserved. If our operators spot anything that doesn’t appear to be right, they send our Harbour Patrol Launch to intercept. No vessel ever comes into the port without us knowing.”

Dover is making plans to update its 15-year-old PMIS with new features, including enhanced radar and tracking capability, to facilitate future growth. Advanced solutions include thermal imaging and night vision sensors that can be integrated into VTS systems, such as Navi Harbour and Navi Coast, supplied by marine IT provider Transas.

“These optional sensors increase situational awareness in difficult weather or night-time situations,” said Chris Loizou, chief operating officer and acting director of shore-based systems at Transas. “More ports have been asking for this type of kit following the implementation of the ISPS Code.”

Sensitive high-end radar can also improve surveillance, particularly of harder-to-detect small craft without lights, but the specific installation must be thought through, Loizou said. “Some ports opt to install top-end radar sensors across the whole port when often it is sufficient to just install high-level coastal radars on the approaches to the port and lower-spec radar to cover blind areas inside, such as behind cranes or a grain silo,” he said.

Even greater situational awareness can be provided by plugging into the company’s 3-D VTS system, which exploits live AIS data on different target vessels to create an accurate 3-D representation of the harbor environment on the console display.

The software works by using AIS identification data

to pull out the closest visual match to a vessel from Transas’ simulated ship database. The 3-D map of the port is populated with the various vessels in the vicinity and a virtual camera can be positioned anywhere within it, even on the bridge of an inbound ship, to help the operator understand navigational hazards. It’s particularly useful in fog or at night, Loizou said.

With congestion generally on the increase, VTS operators find themselves under mounting pressure to manage increasingly larger and faster vessels to quicker turnaround times while fielding multiple VHF requests. With many port workers already working unsociable hours, 24/7 operations increase the danger of operator fatigue and error.

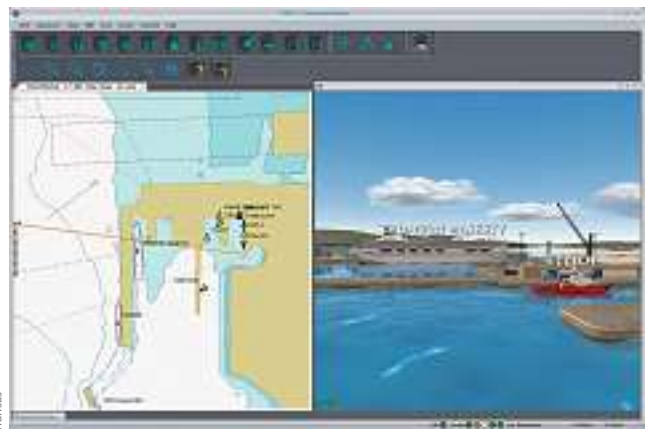
The Port of Dover employs two VTS supervisors and eight VTS officers who are split into groups of two or three and work in 12-hour shifts managing vessel movements. “We have to ensure that individuals are adequately rested and do a maximum of two hours ‘on the book’, running the port, before a short rest period. It’s a very similar system to that used by NATS, the UK provider of air traffic control services,” Manser said.

Transas said its VTS workstations include functions that enable operators to strip out non-critical data from displays and stop multiple non-critical alarms from triggering simultaneously, ensuring that their situational awareness is heightened. Exposing operators to demanding and complex scenarios in a simulator, including crisis management, can also prepare them for what they will face on a real VTS console.

Even simple factors such as operator comfort can make a big difference, Loizou said. “Comfortable chairs and ergonomic console design can help prevent user stress,” he explained. “Our Navi Harbour console includes a dedicated VTS keyboard with lots of easy-to-use shortcuts and hotkeys to various key functions, such as measuring the distance between two targets of interest, instead of doing multiple clicks on menus. When implementing mission-critical 24/7 VTS systems, ports should be making the VTS operator the key focus of their attention, which is intrinsically linked with training and ensuring their job is as stress-free as possible.” PH

Left: Inside the Port of Dover VTS tower with PMIS workstation in view

Right: Transas’ 3-D View software



Port of Dover

Transas



Jacobsen Pilot Service

Taking on LA's big ship challenge

A public-private partner scheme spells success for vessel traffic services at the largest US port, reports **John Gallagher**

Preventing collisions involving bigger ships with deeper draughts and tighter schedules tops the priority list for the US's busiest Vessel Traffic Service (VTS), at the Port of Los Angeles and Long Beach (LA-LB).

Co-ordinating the movement of about 26,000 vessels in 2015, LA-LB VTS is the first line of defence for reliable traffic at the US's largest container port complex. And that responsibility is set to grow as ships get larger and call more frequently.

"We know these larger ships are coming, and if someone messes up, it could significantly impact the port and our ability to be safe and efficient," Captain Kipling Louttit, executive director of the Marine Exchange of Southern California, told *P&H*.

That efficiency – in addition to safety – is enabled

through a partnership unique among the country's 12 VTS locations. At LA-LB VTS, the US Coast Guard (USCG) operates the port jointly with a private ship operations centre: the Marine Exchange.

The operational benefits of the public-private partnership were on display in late December, when the Port of Los Angeles hosted the largest vessel to call at a US port, the 18,000 teu *Benjamin Franklin* container ship.

"They were using four tugs for that ship in addition to what was needed for all the other harbor movements," said Louttit. "We had to slow down another ship that was approaching the port until more tugs could be freed up. That's the kind of co-ordination work that the other VTSs don't do, and the entire maritime community likes that."

The USCG began establishing VTSs in critical, congested ports in 1972 with San Francisco and the Puget Sound. Although some provided services to vessels that took part voluntarily, federal legislation drawn up after the *Exxon Valdez* oil spill in 1989 made participation obligatory by 2000.

Green- and safety-conscious California, however, wanted VTS participation to be mandatory immediately. From 1989 to 1994, the Marine Exchange worked with the USCG Captain of the Port to put six active-duty coastguard members in the Marine Exchange building, in Angels Gate Park adjacent to the port complex.

"The notion was, and still is today, that the federal Captain of the Port authority flows through an active

Marine Exchange of Southern California

“...larger ships are coming, and if someone messes up, it could impact the port”

Kipling Louttit
Executive director, Marine Exchange of Southern California



duty coastguard member, similar to any other VTS, and that that authority can be used by civilian watchstanders” at the Marine Exchange, Louttit explained. “So that’s the way we grew up.”

The effectiveness of the LA-LB VTS’s military-civilian scheme was honoured in 1997 by then-US Vice President Al Gore, who presented it with a ‘Hammer’ award, given to federal employees who help “reinvent” government.

“He said that all VTSs should be set up this way – but we’re the only one that is,” Louttit said.

One of the daily duties at the LA-LB VTS is to send reports at 07:00 and 12:00 with data on vessel arrivals for the next four-to-six days. Harbor pilots and terminal operators use this to schedule berths. “Pilots can see whether a monster ship is coming in and can co-ordinate with ship agents on vessel dimensions,” he noted.

At LA-LB and other ports around the world, owners and operators of cargo ships – and not only container ships – are constantly pushing vessel size limits. *Chloe*, a 320,000 dwt Very Large Crude Carrier (VLCC), entered the Port of Long Beach last October at just under 19.8 m (65 ft) of draught, the maximum allowed at the port.

For *Chloe*, the issue was as much about co-ordinating schedules with other vessels entering and leaving the port as it was about checking adherence to safe draughts. “The pilots had to make sure that these ships are passing in wide areas and that we don’t have two ships trying to get through the breakwater at the same time,” Louttit said.

Weighing on the LA-LB VTS along with bigger ships and more frequent calls is the threat of a cyber attack. The VTS is part of the USCG’s Area Maritime Security Committee (AMSC) for the Los Angeles region, one of 43 such committees set up to bolster lines of defence at US ports. Next to preventing collisions and groundings, “cyber security is probably our biggest challenge”, said Louttit. The USCG has placed cyber security high on its own priority list, he added.

“Things like making sure we have enough funding and personnel pales in comparison to what could happen if somebody hacked into the system, corrupted data, and disturbed the flow of information that’s critical to keep us safe and efficient.” **PH**

US VTS ramps up after flood

In late January, a forecast surge of high, fast-moving water past the Port of New Orleans was expected to reveal once again how heavily safe vessel operations in the US’s most significant export gateway depends on the Lower Mississippi VTS.

Operating out of a building in downtown New Orleans, the VTS was established to manage vessel traffic on a waterway that is not only one of the US’s busiest but also – because of the Mississippi River’s powerful currents – one of its most hazardous.

Those currents become even more treacherous when floodwaters from the US Upper Midwest make their way downstream to the lower part of the river, where bulkers fill with grain for export and tankers offload crude and other energy-related commodities.

That was expected to be the case in late January, when the US National Weather Service forecasted a crest of 5.2 m (17 ft) on the river near New Orleans by late January, where the river normally averages 1.5-2.4 m (5-8 ft).

To take pressure off the levee system, a flood control dam near New Orleans was opened to divert water into nearby Lake Pontchartrain.

Water that high requires intensified oversight from the Lower Mississippi VTS, which manages traffic from 32 km above the Port of Baton Rouge to 19 km off the Southwest Pass in the Gulf of Mexico. When the river reaches 2.4 m in New Orleans, the VTS takes control of traffic at the Algiers Point Special Area, which includes terminals in the heart of the New Orleans central business district.

Being able to move seamlessly from an advisory and navigational assistance role to having direct control of vessel traffic when the river rises to dangerous levels sets the Lower Mississippi VTS apart from others, according to the USCG Navigation Center.

There will likely be plenty of action to keep it busy throughout April as agribusiness works to meet demand prior to the South American harvest. **PH**

VLCC *Chloe* enters the Port of Long Beach in October 2015

USCG’s 12 Vessel Traffic Centres

- Berwick Bay, Louisiana
- Prince William Sound, Alaska
- Houston-Galveston, Texas
- Puget Sound, Washington
- Los Angeles/Long Beach, California
- Saint Mary’s River, Sault Ste. Marie, Michigan
- Louisville, Kentucky
- San Francisco, California
- Lower Mississippi River, Louisiana
- Tampa, Florida
- New York, New York
- Port Arthur, Texas



Linking Europe and China

The Caspian Sea's Port of Baku is building for China-Europe overland links, reports **Turloch Mooney**

In 2017, the Port of Baku, the oldest and largest port on the Caspian Sea, will complete phase 1 of its new international sea and trade port, raising its annual capacity to 11.5 million tonnes of cargo per year and up to 50,000 containers.

Many of these boxes could be transhipped between China, Central Asia, and Europe, as the port stands to benefit strongly from the development of new overland links between China, Central Asia, and Europe through China's 'Belt and Road' investments.

But the new Baku International Sea Trade Port at Alyat is also an important component in the Azerbaijani government's efforts to diversify away from dependency on oil and gas.

"It is challenging for resource-rich states to diversify their economies," said Dr Taleh Ziyadov, director-general of the Port of Baku. "You have to change the economic structure and create the right incentives. The port is regarded as a product that will generate direct non-oil related revenue and also support diversification in deeper ways. In light of the current oil price, this policy is now even more relevant."

The government has allocated 400 ha of land at Alyat, a municipality about 70 km from the city of Baku, for the new port and a Jebel Ali-style economic zone that leverages oil and gas spin-offs as well as better connectivity between China and Europe.

Over the past decade, Azerbaijan has invested about USD15 billion in upgrading its transport infrastructure amid broader ongoing regional efforts to improve road and rail networks. As part of a drive to diversify the economy, the country has meanwhile invested some USD25 billion in petrochemicals and spin-off products. The new port and economic zone development is being positioned as a hub where companies can use locally produced materials to add value to imported products before shipping them onwards to destinations in Central Asia, Turkey, and Europe.

Eugene Seah, a former vice-president of Jurong Port in Singapore headhunted to work as chief operating officer of the Baku International Sea Trade Port, highlights the project's appeal to external investors.

"We have established important linkages with a number of Singapore companies and we expect to sign an MoU [memorandum of understanding] with the Singapore Co-operation Enterprise, which is the leading state agency in Singapore that helps foreign governments and corporations meet their developmental objectives by working closely with



Skyscrapers sprout in Baku, where port facilities are also being enhanced

Singapore’s public and private sector expertise,” he said. “Some leading China companies are also interested in our port and logistics zone.”

Azerbaijan’s government is preparing the special economic zone’s regulatory framework and promoting its plans to international terminal operators and logistics companies, said Ziyadov. Discussions have been held with DP World, APM Terminals, and China’s Minsheng APLL Logistics, he said.

The USD750 million government-funded phase 1 of the port consists of a ferry rail terminal, opened in 2014, a four-berth general cargo quay, a service berth, and a roll-on roll-off quay. Two further phases are planned, taking annual capacity up to 25 million tonnes of general cargo and up to 1 million teu.

“An important point about the Silk Road revival is that it works on the basis that all countries improve their infrastructure and want to harmonise policies across trade, customs, and transit procedures,” said Ziyadov.

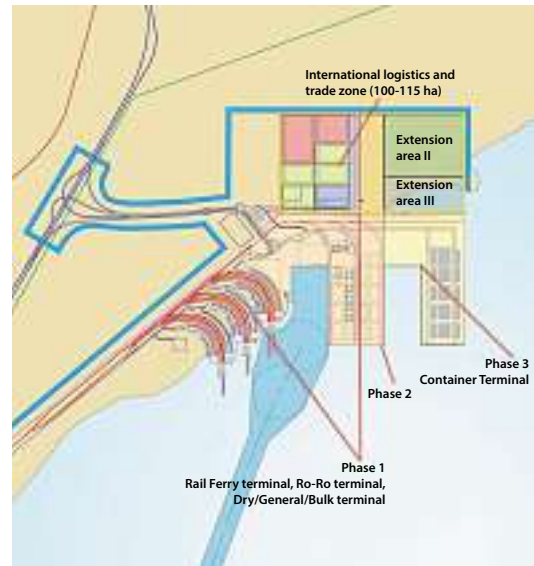
“If Georgia doesn’t have good ports and roads, then we cannot reach our potential. Likewise, if the links between Kazakhstan and China aren’t good enough, we will not benefit.”

In mid-December, a second ‘Nomad Express’ container block train from China’s east coast port of Lianyungang arrived in the Georgian port city of Tbilisi en route to Istanbul. According to Georgia’s economy ministry, the train carried consumer electronics originating in South Korea. It travelled by rail to the Caspian Sea, was ferried to the port of Baku, and headed again on rail to Georgia before being shipped by sea to Istanbul. The journey to Tbilisi took 15 days.

Organised by the Trans-Caspian International Transport Route (TITR) – a group founded by the governments of Azerbaijan, China, Georgia, Kazakhstan, and Turkey – the train undertook the 400 km crossing of the Caspian Sea from Kazakhstan’s Aktau port on a ship with built-in rail tracks, removing the need to unload the containers.

Designed to serve shippers distributing high-value and time-sensitive products, the route offers transit times less than half those of shipments by the Suez Canal.

The TITR group has also developed a single ‘go-through’ tariff rate for shippers from China to



Future expansion area for logistics-intensive industries and trade activity

“The route offers transit times less than half those of shipments by the Suez Canal”

the Georgia ports of Poti and Batumi on the Black Sea and is working on extending this to Turkey and destinations in Europe. A missing 70 km rail link between Georgia and Turkey is expected to be complete by the end of 2016.

Kazakhstan, as it is bypassed by other landbridge routes such as the Far East Land Bridge, is a promoter of the Caspian Sea route to link China with Europe. The head of the Kazakhstan national railway company, Askar Mamin, said he believes that the Caspian Sea route will be handling 300,000 containers a year by 2020. PH

China corridors

China’s Belt and Road strategy will widen trade corridors from China to South Asia, Africa, and Europe. Under development is a planned network of overland road and rail routes, oil and natural gas pipelines, and other infrastructure projects that will stretch from Xi’an in central China, through Central Asia, and reach as far as Moscow, Rotterdam, and Venice.

The initiative also includes a network of planned port and other coastal infrastructure projects from South and Southeast Asia to East Africa and the northern Mediterranean.

IHS chief Asia-Pacific economist Rajiv Biswas expects regional development drives such as the Belt and Road initiative and the creation of the Asian Infrastructure Investment Bank and Silk Road Fund to be central to achieving regional growth.

“For the Asia-Pacific region, a key long-term growth driver will be China’s Belt and Road initiative. This will be catalysed by new infrastructure financing for Asian emerging markets from the recently launched Asian Infrastructure Investment Bank, the Silk Road Fund, as well as a number of Chinese bilateral infrastructure financing commitments to a number of Asian countries,” he said.



ACP

Panama ports poised to exploit canal advantages

New terminal capacity in Panama will complement the expanded waterway and heighten the entire transport system's value to vessel operators, reports **Michele Labrut**

For Panama, it has never been just about a canal. Rather, it has been about a broader system, with the country's canal and adjacent rail and roadways bisecting the isthmus and transshipment terminals at either end, creating a flexible customer solution.

Later this year, the opening of the expanded Panama Canal will create new port and logistics opportunities. To take advantage of this, ancillary ventures by the Panama Canal Authority (ACP) are on the drawing board. "We want to increase the economic patrimony of the canal," explained ACP executive vice-president for research and business development Oscar Bazan.

The highest profile of such ACP projects is the 5.3 million teu/year container terminal at Corozal on the eastern bank of the canal, near the Pacific entrance. The ACP would provide land and dredging while the concessionaire would finance the design, construction, maintenance, and operations of the terminal for 20 years, renewable for 20 additional years.

The Corozal terminal, which would have access to

the Panama Canal Railway, facilitating container moves to the Atlantic side, would be developed in two phases. The first one would be comprised of 1,350 m of quay and 66 ha of yard space for a capacity of 3.2 million teu/year. The second phase would comprise an additional 56 ha and would increase capacity by 2.1 million teu/year.

The ACP issued a 'request for qualification' in December and port operators had until the end of January to confirm their interest in the Corozal project. An international tender is expected by the end of this year.

A bill remains pending in the National Assembly that would grant the future concessionaire tax incentives identical to those of other terminals in Panama. "We are analysing our options," said ACP administrator Jorge Quijano. "We do not need a law to proceed with the next steps. However, they [the port operator of Corozal] would not have all the fiscal incentives that all ports have. This would make Corozal less competitive, thus the offer for the concession would be less."

“We want to increase the economic patrimony of the canal.”

Oscar Bazan

Executive vice-president, ACP



Michele Labrut

Rendering of Corozal project

According to one international port executive who declined to be named, “The port operators in Panama have to be ready for surges in transshipment cargo after carriers implement complete network re-configurations [following canal expansion]. If you have terminal operators interested in investing in a facility like Corozal and there’s little space to grow on the Pacific side, it’s difficult to see a logical reason to oppose such a project. We can’t draw a national port strategy based on a few years of underperformance.”

Beyond Corozal, the ACP may also put out a tender for a specialised ro-ro cargo terminal in 2016, affording new value-added opportunities to the country’s automobile sector. In addition, the ACP has commissioned Antea Netherlands to conduct a feasibility study on development of a 1,200 ha logistics park on the western bank of the canal. The study will determine whether the facility should be focused on petrochemical, value-added, or industrial operations, or all three.

For existing terminals on either entrance to the waterway, 2016 proved to be a mixed but generally positive year. According to statistics from the Panama Maritime Authority, container throughput increased by 2.5% at the country’s ports in January–November 2015 against the same period the previous year.

On the Atlantic side, container traffic at Manzanillo International Terminal (MIT) was down 3.9%, to 1.8 million teu in January–November 2015.

MIT is in the midst of a USD250 million expansion. Capacity was increased from 2.2 to 2.5 million teu/year through a yard reconfiguration and new stacking cranes, then to 3 million teu/year by the subsequent addition of 400 m of berth and four new super-post-Panamax cranes. Following additional enhancements, MIT’s capacity will be upped to four million teu/year by the end of 2016.

MIT was the first terminal in Latin America to receive automatic stacking cranes. “The key advantage that MIT sees in these machines is the ability to stack 20% more containers within the same footprint. This is a significant boost in terms of future capacity,” asserted MIT general manager Stacy Hatfield.

Box volumes at Cristobal, which is owned by

Hutchison subsidiary Panama Ports Co (PPC), jumped 12.7% to 746,808 teu in January–November 2015. According to PPC chief executive officer Aitor Ibarreche, Cristobal is now serving two MSC US Gulf-east coast South America strings, as well as a US Gulf-to-Brazil service in collaboration with Hamburg Sud.

At Evergreen’s Colon Container Terminal (CCT), also on Panama’s Atlantic coast, throughput jumped 57.6% in January–November 2015, precipitated by the return and addition of several service strings.

CCT is in the midst of its third expansion phase, which will increase capacity by 500,000 teu to two million teu/year by mid-2016. This phase is comprised of 320 m of additional quay and an 8.5 ha container yard, plus dredging to 16.5 m to allow for calls by the larger vessels that will traverse the expanded Panama Canal. CCT has received three new ship-to-shore cranes that can service 22 container rows on deck and a fourth that can service 24 container rows on deck.

Over on the Pacific side, throughput at PPC-owned Balboa, the largest terminal in the country, fell 4% through November 2015, to 2.8 million teu.

Along the western bank of the canal on the Pacific side, PSA-Panama is moving forward with a USD450 million expansion that will upgrade its capacity to two million teu/year from 500,000 teu/year currently. “PSA-Panama will provide sufficient capacity to allow lines to build a hub strategy,” affirmed Enno Koll, PSA International’s head of Latin America. The ground-breaking ceremony for the project was held in May 2015, with completion expected in fourth-quarter 2016.

The expanded PSA-Panama facility will feature 11 quay cranes (including eight new quay cranes) that can handle 23 container rows on deck, 12 rail-mounted gantry cranes, nine RTGs, 52 prime movers, three empty container handlers, and over 1.1 km of berthing space. The investment in civil works totals USD285 million and the value of new equipment exceeds USD125 million.

In April 2015, PSA-Panama awarded a contract for dry excavation to Jan De Nul Panama. In the fourth-quarter of 2015, PSA-Panama put out tenders for the dredging of 4 million m³ of soft material and rock, the drilling and blasting of basalt, and the construction of an 800 m quay wall, capable of handling 18,000 teu ships. Jan De Nul, in association with Sapien, won the tenders.

Looking forward, the pivotal question for all Panamanian terminals is whether the expanded canal will create new transshipment volume. According to Hatfield, there is a huge expectation of canal upside, but also “a lot of uncertainty in terms of how the shipping lines will capitalise on the increased capacity of the expanded canal”.

“Panama has a great opportunity to increase its importance as a regional transshipment hub,” said Hatfield. “The private and public sectors must continue to work toward creating the infrastructure and streamlining the necessary processes to stay competitive in the region.” **PH**

Zero CO₂ emissions by 2020

Port of Barcelona has made a pledge to eliminate its carbon footprint, reveals **Jordi Vila**, head of the port's environmental department

The Port of Barcelona has set itself the ambitious goal of eliminating its carbon footprint by 2020. The Barcelona Zero Carbon project is part of the port's environmental strategy, which includes 52 initiatives to improve air quality and reduce pollution in the port area.

The programme to become a CO₂-neutral port

started this year and consists of three phases: calculating the CO₂ emissions of the various port activities, implementing actions to reduce them as much as possible, and offsetting emissions that are not eliminated by purchasing carbon credits.

Under the title Barcelona Zero Carbon, this initiative has started to be applied to three types of traffic: containers, vehicles, and cruise ships, and will be extended to all other traffic in the future. With this project, the Port of Barcelona will lead the way in managing carbon emissions.

"Ports are key players in reducing the carbon footprint of transport, since our facilities are the meeting point of most logistics chains and various modes of transport, therefore we can facilitate modal changes that promote sustainability," said the Port of Barcelona president Sixte Cambra. "As a port, we are committed to reducing our impact on the environment as much as possible."

Search engine for sustainable routes

In 2013 the Port of Barcelona unveiled the *Ecocalculator*, a pioneering tool that provides customers with a service for calculating the CO₂ emissions of their supply chains and helping them meet their environmental commitments. The tool also makes it possible to search for any route used by the Port of Barcelona, helping them to take decisions about routing their freight using sustainability criteria. The *Ecocalculator* does not focus solely on the transit of goods through the port, but analyses the entire supply chain from door to door, stressing the advantages of multimodal options.



© Ramon Vilalta

Furthermore, customers are now demanding actions to combat the carbon footprint generated by the transport of goods."

The project is being rolled out in close co-operation with port operators, including terminals, tugs, mooring service providers, pilots, hauliers, and rail companies. The aim is for each player in the logistics chain to take charge of their own emissions. Although all the transport stakeholders are important to making the initiative a success, the terminals are key, as their facilities generate most of the emissions. The terminals are the source of 47.68% of CO₂ emissions produced in the port, while ships generate 20.9% and lorries produce 18.61%, according to a study performed by the port.

The initiative also involves offsetting any emissions that cannot be eliminated by purchasing carbon credits generated by efficiency projects and emissions savings in other areas of the planet or industries. "All the processes will be validated by external companies to ensure both emission reductions and compliance with the offsets," said Cambra.

Voluntary carbon markets are verified using three standards: Clean Development Mechanism (CDM), Verified Carbon Standard (VCS), and Gold Standard. The Port of Barcelona aims to offset the emissions by participating in projects that have additional and demonstrable social benefits associated to them. Furthermore, the choice of projects will take geographic location into consideration, giving preference to areas of interest to Barcelona's port and its operators. The main sources of greenhouse gases are the energy industry (35%), road transport (21.3%) and the manufacturing and construction sector (18.2%). According to a study by the International Maritime Organization (IMO), shipping accounts for

Our ally, LNG

As part of its environmental strategy, the Port of Barcelona is promoting the use of liquefied natural gas (LNG) as fuel for ships, lorries, and land machinery. This alternative fuel is fundamental for combating the levels of nitrogen and sulphur oxides and particulates in city air. In fact, compared with diesel fuel, natural gas reduces NOx emissions by 85%, added to which it emits no sulphur or particulates.

The Port of Barcelona is rolling out a large number of initiatives to replace diesel by LNG. Barcelona is in an excellent position already: its port has Europe's oldest regasification plant, which came into service in 1969 and is now fitting out a berth to supply LNG to barges and small boats. Also, one of the ferries run by Balearia – the operator that connects Barcelona with the Balearic Islands – will have one of its auxiliary engines transformed to enable it to run on natural gas instead of diesel when in port. The port is a keen advocate of LNG as an alternative fuel in the maritime transport world and among its initiatives for take up, it has agreed to provide a discount of up to 70% on ships' fees for all vessels using propulsion and auxiliary engines running on LNG.

As regards land transport, the first LNG-powered lorry has been running since June 2015 and a programme is under development to improve fuel efficiency and fuel savings among the port's fleets of lorries. The port is also working with two container terminals – TCB and BEST, owned by APMT and Hutchison Port Holdings respectively – to bring LNG into use for terminal machinery, which currently runs on diesel fuel.

2.7% of these pollutant gases, which have a global impact regardless of where they are emitted. The European Union proposes to reduce the carbon footprint of this sector by 40% in 2030. PH



The Port of Barcelona believes that ports should drive the move to reducing its carbon footprint (above and page opposite)



The Port of Barcelona is home to Europe's oldest regasification plant, owned by Enagas



Port of Helsinki



City meeting sea

Finnish port of Helsinki's striking new ferry terminal will help foster growth in maritime operations, reports **Scott Berman**

A sleek and modern form, a maritime marquee, an uber-efficient building, a conspicuous sign of the growing ferry business – however you describe it, the passenger terminal being built on reclaimed land along Helsinki's West Harbour is a study in how to build where the city meets the sea.

Finland's Port of Helsinki's USD98 million project and its newly constructed berths will help move millions of fast-ferry passengers and large volumes of lorry cargo in the years to come, amplifying existing flows to and from Tallinn, Estonia and St Petersburg, Russia.

The steel-and-glass terminal has been designed by PES-Arkkiitehdit to be a robust and highly efficient building that maintains and grows maritime operations.

The biggest surprise so far is that the new facility will be completed several months sooner than originally planned. According to the port, the terminal was originally slated to be finished in 2018, but a new Tallink fast ferry, the first slated to arrive at the terminal, is being delivered in 2017 instead. The new terminal will be customised accordingly, taking into account the vessel's new configurations, including the positions of its doors.

The construction is happening amid a fluid situation in the surrounding area. West Harbour is a part of Jätkäsaari, one of several new, diverse districts being developed around the growing city. In late 2015, Helsinki was putting together a master plan for the development of West Harbour's mixed-use blocks abutting the terminal. A decision on the use of this prime real estate may come in 2016. The city's decision will determine how lorry traffic will move through the area and how residential and port traffic will interact. The area has for a long time housed port, warehousing, and industrial facilities, but these were cleared when the port moved operations to Helsinki's Vuosaari Harbour, which opened for business in 2008.

In Vuosaari, SA-TU Logistics opened the first section of a cargo terminal in 2015, mostly for handling mechanical, forest, and metal exports. Future plans in Vuosaari include a potential expansion by SA-TU and the development of a pulp-handling terminal.

Meanwhile, cruise-ship traffic in West Harbour has been shifted from one pier to another nearby. All of these changes are being spurred by business growth. In addition to cargo on the ferries, West Harbour handled 6.24 million passengers in 2014, representing 78% of the port's overall passenger traffic. That pace is

Now we can see it, and we are looking forward to the completed building

Ari Parviainen
Project director for the new ferry terminal

Timo Porthan/Port of Helsinki



Timo Portlan/Port of Helsinki



PES-Akkirehdi

L to R: Terminal foundation construction, site of new ferry terminal, and rendering of new terminal

indicative of a growth trend officials have seen for the past 15 years and which they expect to continue, said Ari Parviainen, Port of Helsinki’s project director for the new ferry terminal.

The European Union (EU) has designated the Helsinki–Tallinn fast ferry operation as a core network corridor for economic, logistical, and environmental reasons. The two ports are co-ordinating their operations accordingly, with the EU funding 20% of the related costs through its TEN-T programme.

The new passenger terminal highlights the importance and growth of the ferry service. It is a thoroughly integrated project with various benefits to the city and the port, including more tramlines and more frequent service for the area, for passengers as well as increasing numbers of nearby residents as the city district develops in the years to come.

The new building will help enable more traffic growth while easing pressure at existing ferry facilities, including a terminal nearby that will be renovated and will stay in service.

The building will be constructed upon 6ha of reclaimed land created in a campaign by Terramare, which used dredged material and rock blasted from a landside metro project for fill. Terramare also extended the quay wall and added a berth, with YIT Construction adding a second berth.

According to Parviainen, related work nearby includes dredging by contractor Suomen Vesityö to expand an alternate channel to preclude traffic bottlenecks.

After a designated waiting period for the new grounds to settle, KFS Finland constructed the new terminal’s piling system, a component of the project that was concluded in late 2015.

The next step involves construction of infrastructure and utility lines, which is expected to cost about USD49

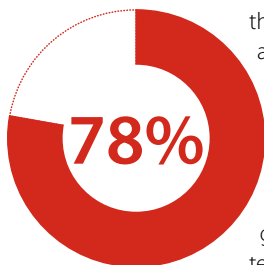
million, half of the project cost. That work, to be handled by several contractors, includes 1 km of street, traffic connections, and an extended tramline. YIT Construction is the contractor for the construction of the terminal building, said Parviainen.

Renderings show the building above passenger car and cargo lanes and between ferry berths, with the terminal extending out to walkways on each side. Passengers will move through the building encountering a grand waiting hall with a high timber ceiling. According to architect Tuomas Silvennoinen, design challenges included the technical and aesthetic details of the building’s exterior, or envelope, such as the hall’s glass curtain wall and its sloping metal roof. He explained that all must be robust and watertight, while still presenting a flowing, sleek appearance. The roof, for example, will be highly conspicuous from the ferry vessels.

Silvennoinen described the terminal metaphorically in several ways, including as a suit of armour that wraps around a functional terminal system. On a whimsical note, he also said that the terminal, with its wings, or fins, extending out towards ferry berths, could even call to mind an abstract sea creature.

The building will forego various services for passengers offered on the fast ferries, underscoring the terminal’s laser-like focus on getting people to and from the ships. On the other hand, the building’s wide-open views of vessel traffic will “provide a good and clear experience of the environment”, said Silvennoinen.

According to Parviainen, the terminal is designed to be “very effective” for sea, tram, bus, and car traffic. On a personal note, he said that his participation with the big changes unfolding at West Harbour “is a very good feeling. It’s satisfying. Now we can see it, and we are looking forward to the completed building.”PH



Helsinki passenger traffic handled by West Harbour in 2014

MORE INFO: scottbermanfreelance@gmail.com



Bigger port for growing population

Oslo's container quay expansion is just one part of the plan to meet the supply and demand gap, reports **Scott Berman**

Rendering of development plan for the Sjørsøya peninsula in Oslo, Norway

Some aspects of a recently completed container terminal expansion at the Port of Oslo, Norway, may seem routine. However, in maritime construction, there is always more to the story.

The first phase of the Sjørsøya container terminal in Oslo was finished in 2007. The second phase, completed in November 2015, more than doubled the quay length. The work unfolded amid an array of dynamics, including a tight deadline, construction implemented within meters of the pre-existing terminal's bustling operations, and in a separate project, blasting and dredging of the harbor's channel.

The Sjørsøya project is one piece of a larger puzzle. The 'big picture' goal is to prepare the port, and by

extension the city of Oslo, for the future. For years the port authority has been planning and executing a gradual shift along the city's waterfront, keeping busy ferry and cruise facilities close to the city centre and moving cargo operations about 3.5 km to the south.

That shift has included Sjørsøya, which has been operated by Turkey's Yilport Holding since 2014. Yilport has also been active elsewhere in the Nordic region, having taken over operations at the container terminal at the port of Gävle, Sweden, in 2014.

In Oslo the USD14.7 million expansion project has created a terminal that can handle twice the capacity it had previously, equating to capacity of 450,000 teu per year, according to Jarle Berger, the port's project manager.

A team of companies joined the port authority to design and construct the second and final phase of the container terminal: Olav Olsen and Nyvoll Consulting, with Alti Construction and Lemminkäinen Norway building the quay. KF Entreprenør completed work on supporting infrastructure, including utility and wastewater lines and a paved terminal area adjacent to the new quay, according to Berger. Construction of the quay itself started in April 2014 and took 19 months to complete.

Berger described Sjursøya as a modern, efficient terminal featuring container stacks five high and nine wide, with four ship-to-shore (STS) cranes and eight rubber-tired gantry (RTG) cranes now on site and operating. There are capabilities for one additional STS crane and five more RTGs. According to KF Entreprenør, its work at Sjursøya included construction of a transformer station and related hardware to “ensure electricity for future cranes”.

The 365 m of new quay extend to the west of the operating terminal and its original 300 m quay, all on the Sjursøya peninsula. Portions to the southwest of the peninsula were gradually reclaimed during the past five years with material from Oslo-area construction projects.

According to Alti Construction’s project manager, Øystein Eide-Fredriksen, 160 tubular piles were driven into steeply sloping bedrock to support concrete elements barged in, as well as poured-in-place concrete. Getting the piles and some of the concrete elements are another aspect of the story. The piles were manufactured in Turkey and brought in by barge. The concrete elements were fabricated in western Norway and also brought in by sea.

The overall work, while exacting, went smoothly, according to both Berger and Eide-Fredriksen. Having the traffic of an operating terminal in close proximity to the construction site was the biggest challenge of the second phase of construction, Berger said. Addressing that challenge – by closely co-ordinating the sequencing of barge and container traffic – required considerable communication between the port, contractors, and terminal operator, he explained.

The container terminal expansion was done concurrently with other work to enhance Oslo’s maritime capabilities. In a separate but related campaign, the port is having its channel blasted and deepened by Wasa Dredging.

According to Berger, the channel will be 14 m deep and 150 m wide once the work is completed, providing vessels with more efficient and easier access to the container terminal and passenger facilities in the harbor.

Meanwhile, work along the waterfront in recent years has included turning old port facility spaces into a variety of mixed-use, residential, cultural, and office developments. The port authority, through its real estate developer subsidiary, HAV Eiendom, has had a hand in the changes along a waterfront district to the north of Sjursøya called Bjørvika, which contains the city’s Opera House, completed in 2007, and a road traffic tunnel built to create pedestrian areas above.

All together, these initiatives are tied to a familiar challenge for ports in cities around the world: urban encroachment.

Oslo is growing rapidly. According to some estimates, it could see a 30% increase in population across the metropolitan region by 2030 and a 25% increase in the city itself by 2040. The population growth rate is unlikely to be matched by commensurate road projects to facilitate land-based transport, meaning that moving higher volumes by truck would create greater road congestion.

The solution is more maritime shipping. Ergo, moving the port out of the city to make way for other uses simply could not work. As port director Anne Sigrid Hamran told *P&H* back in 2009, Oslo without a port would be “like a restaurant without a kitchen”.

So Oslo must integrate its port projects into the city but still grow capacity. Now that the newly expanded container terminal is operating, port officials are eyeing the north side of the Sjursøya peninsula for the next possible project: a bulk terminal or another development, Berger said. Although no decision has been made yet, it is safe to assume that greater capacity in Oslo is inevitable. **PH**

New quay under construction



Barcelona pioneers the switch to LNG

Mediterranean ports have generally lagged behind their counterparts located in northern Europe's emission control zones in driving forward what many see as an inevitable shift to greener ship fuels such as liquefied natural gas (LNG). An outlier is the Port of Barcelona, which has offered to provide facilities for shipping companies wishing to test alternative fuels.

Jordi Vila, head of environmental at Port Authority of Barcelona, explained to *P&H* that ports should play a dual role in the switch from diesel to LNG.

"First, ports have to provide the infrastructure to cover future LNG bunker demand," he said. "Second, ports should promote LNG not only for ships but for all port activities, including trucks, rail transport, and terminal equipment."

Besides these roles, Barcelona port authority's main priorities are the launch of a bonus scheme for



IHS Global

Ports should promote LNG not only for ships, but for all port activities

Jordi Vila

Barcelona port environment head

ships that use LNG as fuel and the creation of a regulatory framework for truck-to-ship and ship-to-ship bunkering operations.

Among the port's current LNG projects is the adaptation of an existing berth to supply LNG to small vessels and barges. A flexible, cryogenic loading arm is being installed as part of a EUR1.5 million (USD1.6 million) investment.

Barcelona is able to promote the

switch to LNG as a ship fuel because it already has an LNG regasification terminal with a storage capacity approaching 1 million m³ that is operated by Spanish energy company Enagas.

Enagas, along with more than 40 commercial and government partners, is leading a European project called 'CORE LNGas hive' in developing LNG initiatives and pilots in various segments of port

mobility in the Iberian Peninsula.

The promoters of the CORE project are also collaborating with two container terminals to convert terminal equipment that runs on diesel to LNG. Initially, the two terminals (see page 27 in this issue) will modify two straddle carriers for LNG, and their environmental performance and energy efficiency will be assessed and compared to that of the terminals' conventional diesel carriers.

The design and transformation of the straddle carrier engines will be carried out this year and performance trials will start in 2017.

Ultimately, the port's aim is to extend use of LNG to the commercial maritime sectors, particularly the passenger segment. Barcelona hosts a major homeport for Mediterranean cruises.

"Our goal is to acquire or transform a barge to supply LNG first to ferries and then to regular cruise lines," Vila told *P&H*.

"Our forecast is that by 2030 about 20% of the new vessels in these two segments will operate on gas. We plan to have a LNG-powered barge ready in 2017."

Tianjin explosions trigger tighter safety measures

China has announced additional safety requirements for companies dealing with dangerous goods as it highlighted its resolve to overhaul safety procedures in the wake of the deadly Tianjin blasts on 12 August last year that claimed 173 lives.

Companies that produce, store, or use dangerous goods are required to integrate their security systems with government IT platforms and undertake a complete

reassessment of major areas of risk by the end of March 2016, according to a government directive. Contingency plans for emergencies and the implementation of regular annual safety drills are also required.

The move follows notice that 25 officials will be prosecuted for alleged dereliction of duty and abuse of power and bribery, in addition to criminal charges brought against 26 executives of the company that owned the warehouse

where the blasts took place and the safety assessment agencies that it worked with.

The official investigation concluded they were caused by the ignition of hazardous materials improperly and illegally stored at a warehouse owned by Ruihai Logistics. Fraudulent safety evaluation reports issued by intermediary safety assessment agencies and the bribery of local officials allowed Ruihai to obtain permits to operate, the investigation report stated.

Notable numbers



243

Number of piracy incidents reported to IMB in 2015

25%

Cost increase to build ships with dual-fuel engines that can use LNG

LNG fuel take-up needs state aid, say German shipowners

German Shipowners' Association VDR has called for faster implementation of state aid for the retrofitting and newbuilding contracting of vessels with dual-fuel engines. The initiative aims to support business opportunities for LNG-burning tonnage for German owners in the North European Sulphur Emission Control Area. These may counterbalance their market share losses in other global shipping segments.

Given that compared with conventional tonnage, it costs about 25% more to build ships with dual-fuel engines that can use LNG, "it will not be possible to overcome the market entry barriers unless a major state aid scheme for newbuilding construction and retrofitting of LNG-



An artist's rendering of the LNG fuel-capable Costa newbuilding that will be constructed by Germany's Meyer Werft.

powered vessels is launched", VDR president Alfred Hartmann said.

The association and other industry bodies that have joined the Maritime LNG Platform alliance lobbied for a EUR150 million (USD164 million) scheme.

Although the German government agreed in principle to include LNG technology under its mobility and fuel strategy programme, funding provisions are still missing in its 2016 budget, Hartmann said. "So far not a single LNG ship could be

launched in the whole of Europe [unless] subsidised," he said.

One of the few fully privately funded projects in this segment is an order for a series of 1,400 teu dual-fuel vessels by managing owner Nordic Hamburg and Chinese partners. The ships, which are chartered out to Finnish shortsea operator Containerships Oy, are still under construction.

Meanwhile, pressure on German owners competing in the global container ship charter and dry cargo markets mounted this year, prompting another spike in divestments. During the first nine months of 2015, 182 German-owned vessels were sold to buyers abroad and since its peak in 2012, the German fleet has shrunk by 17% to 3,122 units, VDR said.

IMB 2015 piracy rates look 'optimistic'

The International Maritime Bureau's (IMB's) 2015 data records 243 piracy incidents in 2015. This figure is nearly identical to that of 2014, when 245 attacks were reported. Security expert Dave Sloggett noted, however, that although the difference of only two incidents is less than encouraging, it masks an interesting picture.

The first half of 2015 showed a negative development, with 154 reported attacks, compared with 123 in 2014. But the second half of the year yielded a more optimistic picture: between July and December 2014, 122 attacks were reported; a figure that fell to only 89 during the same period in 2015. This development represents a drop of nearly 30% across the first and second halves of the year.

A contributing factor for this drop-off is that criminal activity off the shores of Indonesia has levelled off at 106 attacks after climbing

dramatically from 2011 when only 46 incidents were reported. In 2014 the IMB recorded only 100 attacks off Indonesia. The lower number of attacks off the coast of Malaysia from 24 in 2014 to 12 in 2015 was also a welcome sign.

Encouraging trends were also noted in Bangladesh. In the waters around Chittagong the number of attacks was down from 21 in 2014 to 11 in 2015. This may be the result of a combination of weather and new maritime surveillance capabilities in the area. To the west, off the coast of India, the 13 reported attacks stayed at 2013 and 2014 levels.

One key negative trend is seen off the coast of Vietnam, where incidents numbered nine in 2013 and seven in 2014, then rose to 28 in 2015, representing a fourfold increase in a single year. These events are divided into attacks recorded on the anchorage at Nam Hai container

terminal at Haiphong in the north and in the vicinity of Vung Tau in the south.

The Somali piracy crisis remained in a period of apparent hibernation, prompting the international community to significantly reduce the Maritime High Risk Area that had been defined as such attacks spiral out of control.

Such is the progress being made around the coastline of Somalia that the Puntland Maritime Police Force arrested six foreign vessels for illegally fishing in their local waters. This is significant, as one likely catalyst for a resurgence of piracy is illegal fishing operations. The one blight on these figures is the attack on 23 November of an Iranian fishing vessel by what were believed to be Somali pirates. This and a small number of other incidents point to the potential for piracy to once again flourish off Somalia's coast under the right conditions.

In the Gulf of Guinea, the number of boardings and hijackings in 2015 had dropped to 15 compared with 18 in 2014 and 31 in 2013.



34.56%

Percentage of global tonnage that has ratified ballast water management convention



The amount of CO₂ that Barcelona port wants to emit by 2020

Ballast water convention falls short of required percentage

The International Maritime Organization (IMO) confirmed on 15 January that 47 countries have ratified the Ballast Water Management Convention but that their fleets comprised 34.56% of global tonnage: just short of the 35% needed to enforce the guidelines.

Indonesia's ratification, along with those by Morocco and Ghana in November 2015, led to expectation by some industry pundits that the convention would be brought into force. However, there was doubt that the tonnage would in fact add up to the required level.

Panama, whose tonnage would easily push past the needed requirement, is reportedly close to ratifying, possibly by mid-2016. If that were to occur, ballast water treatment systems would need to be installed sometime by mid-2017, as enforcement is set a year after ratification.

There may be tough decisions ahead for shipowners looking to trade in the United States, where the US Coast Guard (USCG) has yet to type-approve a ballast water system that complies with the country's more rigorous equipment guidelines.

With roughly 40,000 ships that will be required to install costly ballast water treatment systems, chances are increasing that shipowners could end up investing millions of dollars on equipment that may not pass regulatory muster in the United States.



Wärtsilä's Aquarius EC Ballast Water Management System. The United States has yet to approve a BWMS system.

"Most shipowners in the world would love to spend the USD3 million to USD5 million per ship that these systems will cost just to be able to check this off their to-do list," Chamber of Shipping of America president Kathy Metcalf told *P&H* on 27 January. "But if there's no system that's US-type-approved, you're taking a gamble. You can make an informed decision on which type to install, but there are definitely no guarantees of good results."

Metcalf, whose Washington,

DC-based, 34-member association represents shipowners, operators, and charterers that have a major office in the United States, contends that even if the USCG were to type-approve systems by mid-year as some are expecting, "thousands of vessels will be scurrying for one or two systems, maybe 500 of which can be manufactured per year. The demand will far exceed supply".

The likelihood that such a scenario could be avoided did not improve when the USCG

recently revealed it would not relent on a more conservative standard than that of the IMO for testing the effectiveness of ballast water equipment.

In letters sent out in December to four equipment manufacturers, the agency rejected equipment tested to a standard that allows invasive species in ballast water to remain alive but renders them incapable of reproducing – a standard approved by the IMO – versus killing them outright, which is what the USCG requires.

Shipowners who want to trade solely in the United States have the option to file for an extension until a USCG-approved system is ready and available. But the IMO will not recognise extensions granted in the United States once the convention comes into force. This means shipowners who want to trade globally should be doing some serious due diligence, Metcalf said.

"I'm telling my members to look for ballast water systems that have IMO-type approval, of which there are about 50 or so, and then narrow down to the ones with flow rates that fit your operational needs," she said. "You may then want to sit down with those manufacturers to find out where they are in the US type-approval process."

That's why shipowners should consider negotiating a warranty clause with the manufacturer in case their systems don't end up getting type-approved, Metcalf said. "After spending that much money on a system that may have to be replaced in three to five years, you should try to get some sort of compensation," she recommended.

0.1%



Sulphur content in fuel that ships will be required to burn at some Chinese ports

2027

All of Singapore's terminals will be moved to Tuas by that year

New IMO boss aims to promote partnerships

New International Maritime Organization (IMO) secretary-general Kitack Lim began his tenure in office in January 2016 by setting out priorities for his four-year mandate.

In his first major statement since taking office, Lim said his vision for the organisation was one of strengthened partnerships between developing and developed countries, between governments and industry, and between IMO member states and regions.

"I will also endeavour to strengthen communication between the maritime industry and the general public," he said. "I see IMO acting as a bridge between all these stakeholders in what I have referred to as 'a voyage together'."

Lim said he planned to concentrate on several overarching objectives, including the effective implementation of international conventions and regulations and building capacity in developing countries, particularly in small island developing states and the least developed countries.



He also pledged to contribute to shared growth for all member states and promote the organisation's global status.

Lim, from South Korea, was elected as the organisation's eighth secretary-general during the 114th session of the IMO Council in June 2015 and his election was endorsed by the IMO Assembly.

Lim paid tribute to his predecessors and in particular to outgoing secretary-general Koji Sekimizu, "whose enthusiasm and devotion to meeting the organisation's goals has brought such

positive and beneficial results".

Lim was born in Masan, Gyeongsangnam-do, one of South Korea's major port cities. He majored in nautical science at Busan's Korea Maritime and Ocean University (KMOU), graduating in 1977, followed by service at sea as a naval officer and an officer for Sanko Shipping.

He joined the Korea Maritime and Port Administration in 1985, while continuing further studies at Yonsei University's administration school. He obtained a Master's degree in 1990.

He then studied maritime administration, majoring in navigation, at World Maritime University in Malmö, Sweden.

Lim began attending IMO meetings as part of the Republic of Korea's delegation in 1986, actively participating in maritime safety and environmental protection issues. He was elected chairman of the Tokyo Memorandum on Port State Control in 2004.

In 2006 Lim was appointed Maritime Attaché, minister-counsellor at the South Korean embassy in London and led all IMO work for the republic, serving as deputy permanent representative to the IMO until August 2009.

At that point, he was appointed director general for the Maritime Safety Policy Bureau at the headquarters of the South Korean Ministry of Land, Transport, and Maritime Affairs.

In March 2011 Lim was appointed commissioner of the Korean Maritime Safety Tribunal. In July 2012 he was named president of Busan Port Authority.

Europe lets ports decide on services competition

The European Parliament transport committee has voted to drop proposals to force European Union (EU) ports to deregulate access to services such as towage, mooring, and pilotage from a new EU port regulation being prepared.

The committee has instead come out in favour of allowing port authorities to decide for themselves whether to introduce competition in services on the basis of safety and security.

The draft regulation approved by the committee puts greater emphasis on the need

to improve financial procedures, notably with regards to the use of public funds for investment, the setting of prices for services, and the use of port infrastructures.

The draft regulation, which marks the EU's fourth attempt since 2003 to introduce port reform legislation, has been broadly welcomed by port bodies and trade unions.

"For the first time in the course of long discussions on the port package, we have the ports, terminal operators, and unions on

board," said Knut Fleckenstein, parliamentary rapporteur for the new rules.

Approval of the draft paves the way for negotiations between the parliament, European Council, and European Commission on a final version. European Sea Ports Organisation (EPSO) secretary general Isabelle Ryckbost said agreement between parliament and the European Council on a definitive version of the regulation was essential, as the commission was likely to go along with their decision.

USD98 million



Cost of Port of Helsinki's ferry terminal project



24/7

Ports are seeing the benefit of round-the-clock operations

Opening this year...

Get ready for the IAPH Mid-term Ports Conference in Panama, where you and your industry colleagues can see first-hand the canal that everyone's been talking about



AP Photo/Arnulfo Franco

Cargo ships sail near the area where a new set of locks were installed during a press tour of the Panama Canal expansion project in Cocoli, near Panama City.

Hosted by Panama Maritime Authority, the IAPH Mid-term Ports Conference will be held in Panama City, Panama, from 10 to 13 May. The three-day conference will provide an excellent platform at which to discuss the effects on

world maritime trade of the expanded Panama Canal, which is scheduled to open this year.

On the last day, technical visits to Manzanillo International Terminal and Expansion Observation Center-Panama

Canal are in the works.

In addition to the port debate and chatter, Panama provides a wide choice of post-conference activities, including bird-watching and turtle-spotting, beaches, culture, and museums.



The conference will be held at the Megapolis Convention Center, and three official hotels – the Hilton Panama, Radisson Decapolis Hotel, and Hard Rock Hotel – are recommended for accommodation. If you wish to stay closer to the conference venue, then Radisson Decapolis or Hard Rock should be your choice. Hilton Panama is about 500 m from the convention center. Please make sure to book your room at one of these hotels on each hotel's website or a third-party booking site such as booking.com or expedia.com.

MORE INFO:
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We value your opinions

Do you have strong views about any of the articles in *Ports & Harbors*?
Are there other industry issues that you feel strongly about?


Email your views to ph@iaphworldports.org and we'll be happy to include them.


Membership notes


The IAPH secretariat is pleased to announce that the following have joined the association:


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 Website: <http://www.panynj.gov>


 Representative: Molly Campbell, director of port commerce


Associate member


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 Telephone: +1-310-606-2783

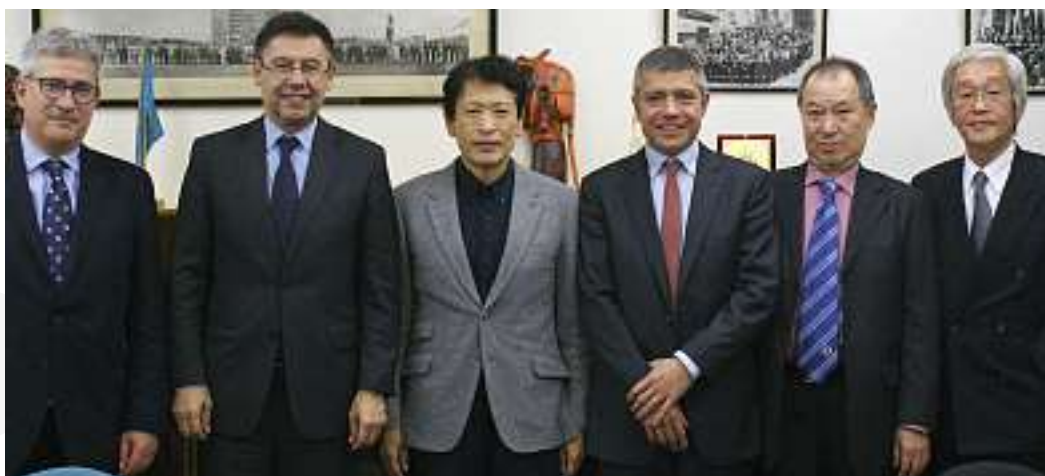
 Fax: +1-213-802-1398

 Email: delroi@northsouthgis.com

 Website: <http://www.northsouthgis.com>

 Representative: Daniel Elroi, president and CEO

 Nature of business activities: Geospatial System Integrators in seaports. Designs, implements, trains, and supports Enterprise GIS systems and related software at ports worldwide



Left to right: Jaime Sanchez, regional sales manager; Josep Maria Bartomeu i Floreta, CEO; IAPH secretary-general Susumu Naruse; Jordi Floreta, vice-president and general manager; and Hiro Nagai and Narumasa Tonda of IAPH

ADELTE team visits IAPH head office

Three delegates from Spanish boarding bridge company ADELTE Group, which is headed by CEO Josep Maria Bartomeu

i Floreta, visited IAPH head office in Tokyo on 18 December 2015. The delegates were in Japan to conduct promotional activities

before attending the 2015 FIFA Club World Cup, in which i Floreta's team, FC Barcelona, won the championship.

Member listings published

The IAPH Membership Directory 2016 was published and distributed in late January. A very big thanks to all the IAPH members who assisted us in keeping the contents up to date, and to the advertisers who kindly placed impressive adverts in the publication.

IAPH members can see the membership directory on the IAPH website at <http://www.iaphworldports.org/library.aspx>

For free additional copies or any inquiries, please contact the IAPH secretariat at directory@iaphworldports.org

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▶ Women's forum

Chair announces plans for Women's Forum

Siti Noraishah Azizan, general manager of Sabah Ports, Malaysia, became the chair of the IAPH Women's Forum on 1 January. She tells *P&H* about her plans for her chairmanship and the role of the forum within the industry

Siti Noraishah Azizan has worked in the ports industry since 1997 when she started working at Johor Port Authority as an administrative officer. She left Johor in 2012 as the assistant general manager of management services and finance and joined Sabah Ports as general manager. She is an active member of the IAPH Technical Committee and IAPH Communication and Relations Committee.

Azizan is also a keen advocate of the IAPH Women's Forum (IAPH WF), and at the beginning of the year she took the opportunity to chair it. Women, Azizan says, have "unique capabilities" and great inner strength and they approach challenges slightly different from men. She wants to make their accomplishments within the ports industry more visible. She sees the IAPH WF as a networking opportunity to exchange ideas

and share learning experiences "to discuss the common and critical areas that hinder women from advancing their careers", she tells *P&H*. "Most importantly, however, being a part of the inaugural IAPH subcommittee, the IAPH WF is also the voice that represents women's contributions to the port industry."

It is not just about the challenges faced by women, Azizan tells *P&H*. The forum also "endeavours to make impactful contributions to benefit the industry. In doing so, we intend to establish women as strong and dedicated partners working hand in hand with their male counterparts for the progress of the port industry."

During her time as chairman, she intends to embark on a development programme to assist women with potential who are working in the port industry to enhance their personal career

development. Two such programmes are the Exchange Programme and Mentoring Programme, both of which are scheduled to be implemented this year.

"Aside from the two programmes mentioned, a Special Scholarship Fund under the IAPH WF has already been launched with the objective of giving potentially qualified and interested women the opportunity to participate in maritime-related courses for knowledge enhancement," she says.

"It is my hope and vision that the IAPH WF will be of great value not only to women, but also to the

organisation and the port community worldwide. I would like to call on all participating members, especially the ladies, to lend their full support so that together we may bring this vision to fruition," Azizan says.

In her role at Sabah Ports, Azizan manages eight ports, including one dedicated container terminal with a capacity of 500,000 teu, one general cargo terminal, three multipurpose terminals, and five oil jetties. She manages site operations, develops strategic business development and the port's organisational strategy, and develops staff. She reports to the chief operating office and group managing director. Eight managers, under whom there are 882 staff, report to Azizan.

“ We intend to establish women as strong and dedicated partners working hand in hand with their male counterparts for the progress of the port industry ”

Siti Noraishah Azizan

General manager, Sabah Ports, Malaysia

Sabah Ports





AP Photo/Arnulfo Franco

The IAPH Women's Forum is offering two port-related scholarships.

IAPH Women's Forum scholarships offer life-changing experiences!

The deadline for submissions for two amazing scholarships has been extended to 15 March. If you are a female working for an IAPH regular port, read on

The IAPH Women's Forum is delighted to offer for the first time these two wonderful opportunities to two female IAPH members. Both scholarships represent a fantastic opportunity to impress your port peers with your knowledge and potential, raise your profile within the industry, and establish new contacts.

The first of the two scholarships is the biennial training scholarship, which includes USD15,000 to supplement two years' training at a college, university, or other port-related training institutions.

You also get the chance to attend the biennial IAPH World Ports Conference in the second year of your training and deliver an original presentation.

The second scholarship, the

Women's Forum Annual Meeting Scholarship, includes up to USD5,000 to attend and deliver your original presentation at the Women's Forum panel either at the IAPH Mid-term Ports Conference in Panama City, Panama, or the biennial World Ports Conference in Bali, Indonesia.

To be in with a chance of winning one of these scholarships, you must complete an application form explaining why IAPH should fund your training and what you could bring to the Women's Forum.

Don't delay as the 15 March deadline is imminent. For more information, please contact the IAPH secretariat by emailing Narumasa Tonda at n_tonda@iaphworldports.org

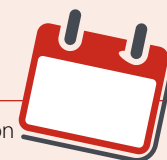
2016

2017

2018

Dates for your diary

A selection of forthcoming maritime courses and conferences



March

22-23: 8th International Conference & Exhibition
Charleston, South Carolina, USA
<http://www.mcimedia.com/Eventhomes/eventlist/10>

April

4-15: 'Dry Port' Planning, Operations, and Management,
London, UK
<http://www.ttpminternational.co.uk>

5-6: AAPA Spring Conference, Washington, DC, USA
<http://www.aapa-ports.org>

6-7: Breakbulk Africa 2016, Johannesburg, South Africa
<http://www.breakbulk.com>

7-8: 15th Intermodal Africa 2016, Accra, Ghana
<http://www.transportevents.com>

18-21: 6th European Transport Research Conference,
Warsaw, Poland
<http://www.traconference.eu>

18- International Port Seminar, Delft, Netherlands
6 May <http://www.unesco-ihe.org/international-port-seminar>

19-22: TransRussia 2016, Moscow, Russia
<http://www.transrussia.ru/en-GB>

20-21: TOC Asia, Singapore
<http://www.tocevents-asia.com/>

26-27: The WMU Symposium on Migration by Sea,
Malmö, Sweden
<http://www.wmu.se>

27-28: 4th MED Ports 2016, Tangier, Morocco
<http://www.transportevents.com>

May

2-13: Port Transit-Transport Corridor Policy, Operations
& Transshipment Logistics Management, London, UK
<http://www.ttpminternational.co.uk>

4-6: 1st APEC-TIPC MasterClass Course, "Total Solution
Logistics Practices in European Trade", Taipei City, Taiwan
<http://203.69.152.9/APEC/index.aspx>

9-20: Seminar on Port Engineering, Antwerp, Belgium
<http://www.portofantwerp.com/apex>

10-13: IAPH Mid-term Ports Conference, Panama City, Panama
<http://www.iaphworldports.org>

18-20: PIANC AGA 2016, Bruges, Belgium
<http://www.aga2016.be>



Busan Port Authority

Beyond borders

Busan Port Authority's recently-appointed president, **Woo Ye-jong**, wants to position the port as a global player in the logistics chain

Busan Port Authority marked the 12th anniversary of its establishment on 16 January this year. It was primarily founded to make contributions to the South Korean economy by making Busan Port a major logistics hub through efficient port development, management, and operation. As the fifth president of BPA, I am confident that now is the time for Busan Port to step beyond our borders to help support sustainable economic growth across the globe by operating a top-class port in the long term. To achieve this, I know that all those who work for Busan Port will do their best in their respective fields.

This year Busan Port's aim is to take a leap into becoming a leading logistics hub amongst global ports. In spite of the continuing recession in shipping, Busan Port Authority has set itself an aggressive target for 2016: to break through 20 million teu throughput. This is a feasible aim when you consider that 19.5 million teu was handled in Busan Port last year despite the economic downturn.

Part of our plan is to attract transshipment cargoes and we are making efforts to do so in different ways so as to achieve this progressive target. At Busan Port

we are continuously improving our facilities' operational efficiency and cargo handling processes to optimise our customers' supply chains.

We will also implement a customer-oriented marketing strategy that will differentiate between shippers and shipping lines as we aim to draw more transshipment containers into Busan Port.

To strengthen the port's competitiveness, the Busan New Port development project continues to be developed in phases with 19 container berths to be added by 2020 to the 21 berths in operation at the present. Busan Port's distribution centres are also being developed and these will be another competitive power, adding value to the logistics chain for our clients.

With the success of the missions mentioned above, I believe that Busan Port will witness an impressive level of progress and will keep contributing to the world economic growth over the coming years. Finally, I would like to take this opportunity to express my gratitude to all of those who have been devoting themselves to making Busan Port the best transshipment port in the region. **R&H**

“Part of our plan is to attract transshipment cargoes and we are making efforts to do so in different ways”

우예종



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